VOL. LXXII. JULY, 1915. No. 1

AMERICAN JOURNAL OF INSANITY

PRESIDENTIAL ADDRESS.*

ON THE RELATION OF PSYCHIATRY TO THE STATE.

BY SAMUEL E. SMITH, M. D., RICHMOND, IND.

Society has in recent years manifested a sound and stimulating interest in the progress of psychiatry. We have begun to see the fruits of this attention in the crystallization of some of its knowledge in legislation—much of it enlightened and beneficial in its results. Psychiatry, to meet the demands of an awakened public conscience for additional truth, is broadening the field of its inquiries. We, on our part, have devoted much time and study to the care of the insane, and have accomplished much in the planning, construction and equipment of institutions for better housing, classification and treatment. For this purpose and under our advice and direction society, through its various units of government, has applied millions and millions of dollars for construction, and for upkeep, maintenance and treatment vast sums are annually expended, making it the largest, costliest, and best directed charity the world has ever known.

The history of this Association is the history of this charity in America. It has guided it by slow stages from mere custodial care, through the infirmary and asylum, to the modern day hospital, with its splendid household and medical equipment, its laboratories, diversions, occupations, re-educational and training schools, colonization, voluntary commitment, after-care, and anything and everything facilitating diagnosis and treatment with a

* Delivered at the seventy-first annual meeting of the American Medico-Psychological Association, Old Point Comfort, Va., May 11-14, 1915.

view to the amelioration of the distress of mental disease and restoration to health, home and society. This work has been well done and its accomplishment is a story of lifetime devotion and labor of love by a long list of distinguished members, living and dead, of this Association. This development, familiar to every member present, has not been devoid of interruptions, delays, disappointments and discouragements by political interference, depleted treasuries, narrow and short-sighted policies, top-heavy officialdom and the like, and yet throughout its course it has maintained, and to-day enjoys a high degree of public confidence.

To the educational efforts of the superintendents of the hospitals more than to any other single agency is credit due for the system of state care. In season and out they have pressed upon the attention of the public and the constituted authority, the wisdom, humanity and value of the early admission of new cases to the hospitals and the duty of the state to provide necessary accommodations for their care and treatment by the establishment of new institutions and the enlargement of the old. Not infrequently have their activities extorted from unwilling states and their doubting legislative bodies necessary funds with which to carry forward their plans for improvements, new construction and maintenance, and yet in the end, however grudgingly these appropriations may have been given, usually, if not always, their application has received public approval and applause. While state care is not complete, except possibly in New York, Delaware and Virginia, it approximates it in most of the states, and the results justify beyond all question the value of the system over the earlier, meager and incomplete methods of care under smaller divisions of government, niggardly administered by commissions, selectmen, trustees and overseers of the poor, from whom the authority was wrested only after a struggle covering many years and led by the superintendents of the hospitals. While the development is a source of gratification, the work is far from finished.

We have preached the doctrine of segregation for nearly a century and the state has in large measure heeded us. Institutions have been multiplied and enlarged to mammoth proportions to meet our demand for state care, and are yet insufficient. Whether the increase of the mentally diseased is real or apparent, the fact remains that the number of so-called insane is larger to-day than

history has ever recorded. The burden of care has become enormously heavy and so great in some states as to constitute the largest item of public expenditure. Concretely and approximately, in every group of 300 citizens there is one mentally diseased person whose domicile under public care would cost $1000, and whose care and treatment would demand an outlay of $200 annually for ten years. Complete segregation will require a permanent investment of $300,000,000, and for custody, care and treatment $600,000,000 more in ten years. Small wonder that an enlightened public is asking on every side from the Senate chamber to the boys' club the pertinent question, Why? And this question must be answered. An intelligent philanthropy demands knowledge. On faith alone it cannot and will not carry this mighty burden. The spirit of altruism is beautiful and helpful in some degree, however applied, but is not permanently beneficial unless founded on scientific knowledge. Herein lies the responsibility of this Association, and from its members must come this information. In our wards and laboratories must be worked out the problems of ætiology with scientific accuracy before substantial progress can be made in prevention.

Never in the history of this Association was the responsibilty resting upon it and its individual members so great as it is to-day. If, after the ceaseless effort of 71 years, state care may be regarded as successfully and permanently established, even if not quite complete and perfect, we of this Association find ourselves possessed of a reasonable degree of public confidence, it means something. Public confidence in this instance spells faith and responsibility. Faith is in us for the lessons we have learned and taught to others—a faith justified by works—for things done for the insane and for the state in the great service in care and treatment. Responsibility rests upon us for the guidance of an awakened public, better informed and more intelligent than ever before, in the difficult field of prevention. The layman's point of view is not only changed, but it is broadened by elevation; he now looks over and behind hillocks which were formerly barriers and down into valleys hitherto bottomless. When he wants to know, the time is come when he should know.

During the past ten years the subject of prevention has held an important place in our program. The futility of segregation of

the so-called insane as a means of prevention, while the feeble-minded and epileptic remain at large, has long been apparent. Humanitarian motives originally and mainly have prompted and justified the segregation of the insane for treatment and custody and led, by reason of the immensity of the cost, into our system of state care. It was not established and developed as an eugenic movement, although we are coming more and more to appreciate its eugenic value. Latterly more importance has been attached to it as a factor in prevention, and yet it must be admitted that this element is negligible as compared with the value of segregation of the feeble-minded and epileptic, since more than 50 per cent of the women in our hospitals are beyond the child-bearing period and the incidence of insanity increases with advancing years.

Insanity, so-called, has been properly termed an end-product. The processes may be long or short and include one, two or more generations, and based upon a syphilitic infection, an alcoholic degeneration, trauma, an auto-intoxication, or whatnot, yet whatever it may be must be determined and given publicity. Humanity demands, and duty agrees, that no effort must be relaxed and no means omitted to relieve the distress of the end-products, yet another duty urges recognition and control of the morbid processes which threaten an overwhelming sub-normal output.

Psychiatry, then, has a two-fold relation to the state. On the one hand it is the treatment and control of the so-called insane, which is generally accepted and practiced. The other aspect is the guidance of the state into practical methods of prevention. The latter depends upon the former. We may go on to the end of time treating and caring for the mentally diseased and may return a goodly number to their homes and former walks of life, and yet in the end the results are temporary only unless, in the methods of treatment and care, we go back and beyond into the realm of causation and by a scientific analysis of all our cases demonstrate the morbid elements responsible for so much sub-normal product. In the study of this complex problem, progress is necessarily slow, yet some advance is being made and some important facts have been gathered.

Without entering upon any extended discussion of the complex subject of causation, it is pertinent here to make brief reference to it. As our investigations have advanced during the past 10

or 15 years, the accepted causes of mental disease have been numerically reduced. Not forgetful of, but omitting for the sake of brevity, the acute infections, and the auto-intoxications resulting from disordered metabolism, we are forced to admit that the chief factors in the production of mental disorders are, in the order of their importance, ***heredity, syphilis, alcoholism*** and ***other drug habits.*** While granting that the term heredity is more convenient than exact, it is generally accepted to mean the transmission of a defective organism from one generation to another. And in the light of the results of recent investigations and the trend of scientific opinion, the elements influential in originally modifying the organism are syphilis and alcoholism, and less frequently other drug habits. As our tests for syphilis become more precise, the number of mental defectives showing positive reactions to them has steadily increased, and it seems now probable that transmitted syphilis produces as many mental defectives as direct infection. Unfortunately we have no corresponding test for alcoholism and other drug habits, but the study of the family history and clinical observation furnishes sufficient ground for assigning alcoholism as the direct cause of many cases of epilepsy, feeble-mindedness, dementia præcox, neurasthenia, psychasthenia and other mental disorders attributable to a defective organism. If, then, syphilis and alcoholism or other drug habits are shown to play such important parts in heredity, their value as causative agents of mental defectiveness is enormously increased. This view of causation does not by any means make clear the origin of all mental defectives, but it certainly includes the majority of them and furnishes abundant suggestions for prevention.

The responsibility of this membership does not end with its hospital and laboratory work and the knowledge of causation it may gather there. Unless there is found a practical application of this knowledge, it is useless in prevention, and therefore its wise dissemination into those channels which may best reach and impress the public mind becomes an important function. If the state is to be guided with the same care and safety into the field of prevention as it has been into that of treatment and management, cautious advice is necessary.

This is a period of law making. Advanced but immature thought finds its way quickly into the statute books of the land.

Good causes are often embarrassed and hindered, and humanitarian effort is not infrequently limited by unwise and impractical legislation. The subject of prevention of the mental defective has not wholly escaped.

The eugenic laws suggested for recent enactment in several states furnish an example of such premature legislation which must prove more harmful than helpful. The dignified science of eugenics has been degraded into a public plaything and made the unfortunate object of the cheap wit of the stage and public press, for the reason that its principles have not been sufficiently worked out to furnish a sound foundation for a legal superstructure. Indeed, there is no assurance that its principles, whenever they are known and proven, can ever be applied by the law to improve the efficiency of the race. The statutory requirements of even a clean bill of health for a marriage license fails, notwithstanding it aims to prevent infection, direct and indirect, from syphilis and tuberculosis—diseases recognized and admitted by every thinking man and woman in the land as contributing enormously to human misery and incompetence. This law has never proven successful in any state, because thorough medical examination, a *sine qui non*, is difficult and costly, and medical certificates are obtainable from unskilled and incompetent medical men for small fees based upon imperfect examination which defeat the very purpose of the law. Moreover, as has been repeatedly pointed out by Dr. White and others, it is a reasonable expectation that common-law marriages and illegitimate sexual relations must follow any legal effort to restrict marriage. It seems apparent, also, that the elimination in any degree of the human element from the marriage contract must decrease legal marriages and the birth rate, and diminish the importance of the family, the very source of our social strength. Discouraged thus in the application by law of the simple rules of prevention of infectious disease through sexual contact, little may be expected from legal assistance in the practical observation of the higher and more complex principles of the science of eugenics. Only careful medical and social observation, genetic experimentation and biologic investigation through a long period of time can develop the knowledge on which to base safe rules of human conduct in the laudable effort of race improvement. It is a subject worthy of the most careful consideration and every

encouragement and assistance which psychiatry can accord it, and the cause cannot be better served than by judicious discouragement of premature legislation which belittles and hinders, rather than stimulates, progress in a worthy cause. No theoretical standards of eugenics can be successfully forced on any community, and no standard of one community can be forced on another differently organized.

Legalized sterilization, promising and valuable as it is, has made little progress as a means of prevention, because it is too far in advance of popular opinion. In my own state of Indiana, where in 1907 legal recognition was first given it, the purpose of the law is "to prevent procreation of confirmed criminals, idiots, imbeciles and rapists," and is applicable in "pronounced unimprovable cases" only; it has not advanced in public favor as rapidly as was expected. Even after eight years it must be applied with discretion and caution, because, lacking in popular support, the threat and danger of raising the question of constitutionality, a test it can never endure, eternally hangs over it. Paradoxical as it is, the very enactment of the law has stopped in a manner the campaign of education in favor of its underlying principle, because, having secured the law, continued discussion with doubtful support and lack of appreciation of its purpose and value endangers it. The law, therefore, has been limited in its application. An obstacle to the practical application of this and some other legal measures looking to the prevention of mental and physical inefficiency lies in the fact that demonstrable benefits are secured only after an experience of two or three generations and cannot, therefore, be brought to their support, except by some analogy, and this fact emphasizes the contention that in matters of statutory prevention an awakened public conscience is a prerequisite. These observations upon legalized sterilization must not be construed as inimical to the Indiana law, because the writer believes in it, supported the measure in its enactment, and has continued to do so to the present day; but the view in retrospect suggests that more rapid progress would have been made by a longer period of education before invoking statutory aid.

It thus appears that the exercise of a wise influence against premature legislation in methods of prevention is not the least of

our duties. A pleasing and convenient method of disposing of suggestions for prevention and kindred subjects by large organizations such as this is to accept them in the form of resolutions recommending legislation and pass them with brief discussion and little consideration of their practical application. They are then used with the stamp of authority by lawmakers, too often seeking personal notoriety rather than the good of the cause, for legal enactments which prove impractical and ineffective and bring the law and the cause into ill repute.

The field of opportunity in prevention is broad and inviting, and consists not in experimental law making, but rather in the dissemination of the scientific knowledge gathered from our wards and laboratories, through well-chosen and sane channels of social service, to the family and individual. The present awakening of the public to the mighty problem of the mental defective is wholesome and affords unusual opportunity to the teacher and psychiatrist ready with lessons in prevention. These lessons must be founded upon our present knowledge of ætiology and explicitly demonstrate the certain penalties of syphilis, alcoholism and other drug habits, and their hereditary influences, and must include the control of the large groups of defective organisms—the feeble-minded, the epileptic and delinquent.

It is unquestionably the consensus of opinion that the complete and permanent segregation of the feeble-minded promises the highest and most far-reaching results in prevention and would go far towards solving this stupendous problem; yet it is also apparent that the great cost of such segregation stands as a bar to its full application. Accepting published statistical reports, there are more feeble-minded than insane persons in the country, with only 50,000 segregated in public institutions, jails, almshouses and penal establishments. Or, in other words, the complete segregation of the feeble-minded would at least involve a duplication in capacity of all the hospitals for insane in the land—a consummation entirely beyond our resources under the present fallacious financial policy of most of our states. In all other forward movements requiring large expenditure of public funds for permanent improvements the state, by bonding, distributes the burden of cost over the two or three generations benefited by the undertaking. In

the care and treatment of its defectives the state strangely makes an exception to this policy and places the burden of cost, both for permanent improvements and maintenance, upon the present generation. If such exception could be eliminated, segregation could be extended to many more and the cause of prevention much advanced. It is worthy of consideration and effort in the more populous commonwealths.

In the establishment of new institutions for the insane or feeble-minded under the state-care system, it seems inevitable that cost will be a more important factor in the future than it has been in the past. The trend of approval unquestionably is in the direction of higher and better equipment of existing institutions and their enlargement by colonization, rather than by duplication of institutions. This plan has much to commend it. It reduces the per capita cost of original construction, provides in the parent institution the scientific equipment needful for the study and care of those requiring special treatment, nursing and re-education, and the colonies with simple and inexpensive construction and equipment, located at varying distances from the central plant, afford large opportunity for the employment of custodial cases in such a manner as to contribute something to the cost of their maintenance. This plan is being applied successfully in several of the states and is growing in popularity. It will doubtless result in the segregation of a much larger number of defectives at a relatively smaller expenditure of public funds.

While encouragement may properly and safely be given the establishment of special institutions for the segregation of the feeble-minded, as far as means may permit, it is apparent all can never be removed from society and that the problem must be approached from some other angle. That angle, as it now appears, is the stimulation of public interest by bringing to the attention of the great middle classes of our people the gathered facts bearing directly upon this question. The middle classes include all between the extremes—from thinking and reading laboring men and women to and including the professions—and these constitute the great moving force of our development. If this strong group can be brought to a fine appreciation and consistent support of the movement now being inaugurated throughout the land for the

thorough medical examination of the school children and the treatment and training of the large group of sub-normals amenable to such management, the certain penalty of procreation by them and the value of sterilization as a means of prevention, something positive will be accomplished. This support is obtainable, if sought, and there is no higher duty resting upon us as members of this Association than to seek it.

A prolific source of increase of insane and feeble-minded cases lies in that large group discharged annually from our institutions as recovered and improved, and its control confessedly furnishes a difficult and complex problem. This group includes necessarily many cases of manic-depressive psychosis, recurrent in character, and a still larger number of cases of dementia præcox adjusted to lower mental levels. For obvious reasons these cases cannot be retained indefinitely in our institutions and are returned to their homes or set at large to enjoy under present conditions the full rights of citizenship, which means too often the reproduction of their kind. To this group may be added, also, the sub-normal children taken from the public schools and given special training, as the result of medical inspection and supervision, and their number will increase enormously as these inspections become more rigid. True, it is the laudable purpose to train them in special schools and fit them in some degree for lives of usefulness, but in thus avoiding segregation they are, although no better fitted, helped towards parenthood with its mischievous consequences. While public opinion against marriages in these groups will accomplish something, the only positive preventive measure for this menace is sterilization. It may be a long way in the future, because it must wait popular approval, but towards it the campaign of education must be directed.

Nevertheless it is our duty to encourage the system of medical examination of school children by experts specially trained for the purpose, with a view to removing sub-normal children from the schools and treating and training them in the manual training schools under special teachers and medical officers collaborating. A movement should be encouraged to provide, wherever numbers justify them, clearing houses for mental defectives upon the general lines of that recently established by the Commissioner of Charities in New York and under the very efficient management of Dr. Max C. Schlapp. This work is broad and efficient and commends itself.

The out-door work of Dr. W. E. Farnald in connection with the Massachusetts School for the Feeble-Minded and other similar institutions is commendable and effective and should be applied wherever possible.

The establishment of societies and committees for medical hygiene, psychiatric societies, eugenic societies and the like deserve the encouragement of this Association. Such organizations are now actively at work in a few states. They are in a fair way to accomplish much good, and should be established elsewhere. We can contribute nothing better to the great cause of prevention at this time than by the promotion in every state of the union of state-wide societies, affiliated or not with national organizations, of mental hygiene and the like, to include both laymen and medical men, to whom and through whom a better understanding of the nature of mental disease and its preventableness may be taught.

The National and State Conferences of Charities and Correction afford unusual opportunities for the dissemination of knowledge on prevention. This national organization has for many years dealt influentially and helpfully " with the problem of charitable institutions supported by taxation and caring for adults and children who by reason of infirmity or misconduct are for the time being wards of the state." Its membership is limited only to those interested in charity and correction, and two or three sessions of its annual meetings are devoted to the insane, feeble-minded and epileptic, under the chairmanship usually of a superintendent of a state benevolent institution. Its active membership includes the best known social workers in America and its audiences are probably the largest and most influential of any of the national organizations that seek the uplift of humanity. While it is interested alike with us in the all-important subject of prevention, it is apparent that our membership has not, especially in recent years, availed itself of this unusual field for the presentation of its observation and conclusions. A more active participation in its deliberations by this membership would certainly give a more scientific foundation for the doctrines it so widely and effectively promulgates.

And coming closer home, there is no field so rich for the implantation of the seed of prevention, as the local community of

every institution, state or private, represented in this Association. All may readily become centers of activity in social service and through local clubs and societies reach the family and individual without misdirection. The peculiar relationship of the institution to the local community gives any expression emanating from it a stamp of authority which is invaluable in this cause. It is admitted that the medical staff is usually burdened with its multiplicity of duties, but ample time should be found, even if it is necessary to add an additional medical officer to the staff for the purpose. No better investment could be made by the state.

The development of after-care directly by the institution or through independent local organizations would stimulate interest where little now exists.

The establishment of a weekly or monthly public dispensary service in connection with each hospital would make it possible for incipient cases of mental disease to receive expert advice and treatment, and is worthy of trial and encouragement. Many such cases would be saved from serious mental upset and commitment, and such a dispensary service in conjunction with the institution's social service and after-care organizations could manage and treat many mental cases at home, even for long periods of time, with satisfactory results. The effect of such treatment and supervision is broader than the benefits accruing to the case itself, because the advice and instruction would reach the entire neurotic family and the immediate neighbors.

Intimate touch with the public might be effected by a thorough survey by each institution for the insane, feeble-minded and epileptics of all the territory tributary to it; and this would also yield valuable information concerning consanguinity, social habits and conditions, and other factors of causation which would suggest corrective and preventive measures.

The local medical societies lend themselves readily to these movements and bring into them men and women of scientific training whose assistance and services are invaluable to the cause. In the end, whatever of substantial progress is made along the lines of prevention of mental or other disease is the result of the primary activities of the medical profession, and without its intelligent and sympathetic support little can be accomplished.

In the education of the people in the direction of prevention, there is need of capable leadership even more efficient and influential than that which made possible the state care system, because it touches the family and the individual and must modify customs heretofore held privileged and sacred. The activities, therefore, of this membership, to be effective, must be of a kind to beget the greatest public confidence.

There is good ground for the belief that many heads of public institutions have in the past limited their influence and lost something in the public estimate by confining their public activities to expert testimony and medico-legal cases, and have thereby encouraged the growing impression that their expert medical opinion and advice on all public questions is based upon a monetary consideration. An ethical question, debatable of course, can be raised in this connection. If not now, the prediction is safe that the day is not distant when the medical superintendents of the public hospitals will regard it as their duty to decline to appear as experts in court except as members of an impartial commission to determine the question of mental disease and responsibility, appointed by some legally constituted authority. It is questionable whether a medical officer can ever appear as a partisan expert witness without jeopardizing in some degree the interests of his institution, his personal and professional dignity, and his influence as a medical adviser to the public. There can be no higher mission of such an officer than to carry directly to the people his expert knowledge of mental disease and its prevention.

Aloofness has been charged directly or by implication against this Association by some other medical societies, but this criticism, based doubtlessly upon an imperfect conception of its work, is disappearing and may be entirely removed by cooperation in this common cause of humanity in which every worthy member of the profession is vitally interested.

The growing importance of psychiatry in the curricula of the medical schools testifies to an awakened interest in a subject hitherto regarded as obscure and cheerless, if not speculative and intangible, and encourages the belief that it is becoming more generally recognized as "a large and important chapter of inner medicine," and is "likely to prove a formidable rival of all the other medical specialties for the affection of the better young men

now entering upon medical careers" (Barker). These facts are indeed encouraging, but it will be remembered that the great army of strong and influential medical men active now in the practice of the profession and useful to us in the campaign of prevention have had little or no training in psychiatry and must be enlisted in the cause on the broad ground of general prophylaxis. On proper appeal, however, this can be done. And furthermore, a closer relationship with the general profession will, through cooperation, lead to the establishment of more psychiatric institutes and clinics in the populous centers and thereby stimulate activity in the field of research and treatment. Psychiatry is so broad in its scope and its problems are so enormous that it welcomes the student of all the allied and subsidiary sciences. In the view of Dr. L. F. Barker, "no single investigator, of course, can hope to be active in all parts of this large and varied field of inquiry. Not even the collective activities of the members of a single psychiatric clinic can cultivate more than a small portion of the field. The work is cut out for the aggregate of the world's psychiatrists for at least many generations ahead."

The enlistment of the medical profession in these activities brings into the cause the most potent and influential of all the factors of prevention—the family physician—the one person who has the first and the last word in shaping the distinies of the race, the one who dares walk "where angels fear to tread"; the one person who ventures within the sacred precincts of the hearth-stone, or at the steps of the holy altar makes bold to say, "Thou shalt not." Arm him with the facts being gathered to-day in the wards, the laboratories and such meetings as this, and the battle is half won.

Other avenues of approach and other influences might be mentioned, but those enumerated suffice for present purposes. Through these the dangers of an overwhelming increase of the mental defective can be demonstrated, the public conscience can be reached and aroused to the necessity of observing a few fixed rules looking to the conservation of human efficiency. Then and not till then may we look with reasonable expectation for any practical results from legal enactment upon sterilization, restricted marriages, higher eugenics, and complete segregation of the feeble-minded.

IMMIGRATION.

The subject of immigration has assumed additional importance and is rendered somewhat more complex by reason of the present European war. While practically suspended now, resumption is expected after the cessation of hostilities. There seems to be a divergence of opinion among public men of the effect the war will have upon future movements of population to this country. On the one hand it is claimed that it cannot in many years, if ever, attain such proportions as prior to this conflict, when, for example, 1,218,480 immigrants were admitted during the year ending June 30, 1914. This assumption is based upon the statement that the war will be exhaustive to the participating powers as well as to their neighbors, and that with a diminished national population abundant employment will be found at home for both men and women able to do any kind of work in the rebuilding and operation of neglected and damaged industries, internal improvements, and national defenses; and that, if history repeats itself, such a costly war will be followed by an era of unusual industrial prosperity in all the affected countries, making emigration unnecessary and undesirable.

On the other hand, the opinion is held that the heavy burden of taxation, raised to the very limit to repair as soon as possible the extraordinary national losses sustained by this conflict, will markedly increase the drift to this country. In this exodus, it is predicted that many weak, defective and dependent persons will be encouraged to join, because public relief at home will be curtailed, if not entirely withheld, temporarily at least, for want of public funds, while in America substantial relief is assured if the gauntlet of the port of entry can be safely run.

Whatever view of the situation may prove correct only time can tell, yet it may safely be assumed that the immigration of the next five years will not bring to our shores the most desirable material for good citizenship. It goes without saying that the losses in war are the best blood of the nation, because only the strongest youth and best manhood are called to the colors and the weaklings remain at home to help the women folk as "hewers of wood and drawers of water," and later to father the coming generation. The several nations will see to it, as a matter of national safety, if not of existence, that the best of the survivors do not emigrate,

and such as are permitted or encouraged to leave will come from the weaker groups.

With such a discouraging prospect it behooves us to increase our activities and vigilances in the direction of better legislation upon this subject of immigration. All of us are aware of the weight and unjust burden upon some of our Eastern states, and particularly New York State, as a result of the laxity of our immigration laws and the incomplete medical inspection under them by reason of the limited number of trained medical examiners.

It is not my purpose to anticipate any report the Committee on Immigration may render to the Association, but rather to call special attention to this important subject at a critical time. The transactions of last year are not clear upon the continuation of this committee, but in the judgment of the President and Secretary, it was deemed desirable to give it a place on the program in the hope that it has continued its work and may have a report for presentation and consideration.

ANNUAL ADDRESS.*

PUBLICITY AND THE PUBLIC MIND.

By DOUGLAS SOUTHALL FREEMAN, PH. D.,
Editor The News Leader, Richmond, Va.

The rapid extension of the field of your beneficent studies, gentlemen, is probably the reason for the selection of a layman to deliver the annual address before you. It is certainly this layman's only justification for accepting that invitation.

As long as insanity remained solely a medical problem any discussion of its social aspects was by the mark. But now that insanity is viewed not less as a disease of society than as a disease of the individual, all that illumines, even in the slightest degree, those congregate social forces that may superinduce mental disorders is of value in the study of the prevention of insanity. "Manias and delusions," in the now familiar words of Sumner, "are mental phenomena, but they are social. They are diseases of the mind, but they are epidemic" (Folkways [1907 edition], 210).

On this premise I shall endeavor to show you that there exists what I have styled the mind of the reading public; that this shows itself in numerous ways; that it bears an intimate relation to the instincts, has a very definite and necessary place between the mind of the individual and the mind of the crowd, and is of danger to society and of interest to you as psychiatrists when it passes from its proper place and helps transform the mind of the crowd into the mind of the mob. I shall conclude with nothing more substantial than a number of questions for your consideration, and I shall have to plead the employment of a somewhat limited psychological apparatus; but I shall ask your indulgence on the ground that an humble start is better than no beginning. For the subject we are to discuss, strangely enough, is one that has received but scanty attention from the many eminent men who

* Delivered at the seventy-first annual meeting of the American Medico-Psychological Association, Old Point Comfort, Va., May 11-14, 1915.

have developed social psychology—Spencer, Tarde, Le Bon, James, Ross, McDougall, Davis, Cooley and the rest.[1]

Modern publicity has developed so subtly and into so many channels of recent years that few of us can appreciate the tremendous influences it brings to bear on our mental processes. The gossip may now sit an hour at her telephone and spread more scandal than the idlest spinster of a generation ago could have disseminated in a month. Congregate city life, spent in trolley-cars that carry advertisements, along streets lined with signs and in homes and offices to which the mail may bring its message three or four times a day, offers infinite possibilities for publicity. Those who need this for themselves or for their products have overlooked few of the many channels. Every railroad, every large corporation, every great industrial establishment, every department of government and every great technical society now has its regular publicity, the end and object of which is to reach and impress the individual through the crowd. One need only read the admirable monographs on advertising—those of Scott, for example—to realize how accurately, how thoroughly and how scientifically the maker of Uneeda Biscuit or the manufacturer of Gold Dust seeks to make his product known to every literate American.

The greatest of the agents of publicity, the newspaper, has acquired dimensions that are almost too large to be impressive when stated in figures. Of the 20,041 daily and weekly newspapers in the United States alone, 2694 are daily. These have a total combined daily circulation of 25,357,000, or approximately one for every four persons in the United States (Ayer's Directory, 1915).[2] When it is remembered that the average intelligent male

[1] As I shall not have occasion to refer directly to the work again, I must at this point express my indebtedness to Howard's Social Psychology, An Analytical Reference Syllabus (Univ. Neb., 1910). This is truly invaluable as a guide to the published literature.

[2] A very interesting monograph might well be written on a study of the statistics of the press as they illustrate wide reading and a consequent information in respect to government and social progress. The circulation of 25,357,000 mentioned in the text is distributed as follows among the American states: Alabama, 177,000; Arizona, 28,000; Arkansas, 80,000; California, 1,100,000; Colorado, 208,000; Connecticut, 223,000; Delaware, 35,000; District of Columbia, 178,000; Florida, 110,000; Georgia, 247,000; Idaho, 35,000; Illinois, 2,590,000; Indiana, 695,000; Iowa, 539,000; Kansas,

citizen has been shown by investigation to spend 15 minutes the day in reading his newspaper (Scott, Psychology of Advertising, 232), that 42 per cent of a selected list read two papers a day, that every paper is read by an average of two persons, and that 3 per cent of the same selected list read all the papers published in a large city, the tremendous scope of newspaper publicity is but barely indicated. What else is there that keeps the average man in touch with the world for an average of 15 minutes the day? What other agency is there, for good or for evil, that can be said to hold and to inform the average mind for that length of time every day of every week?

As a result of a certain misdirection and misunderstanding, upon the details of which it is not necessary here to dwell, we have an American aphorism that "if you see it in the newspapers it isn't so." In this spirit some of us believe that we are immune to the influence of this publicity. It is for this reason, one may well believe, that the subconscious influence exerted by the press is so profound. On the broad ground that we do not believe what the newspapers say, we believe all the more that which we forget we have learned from the press.

As proof of this—if one might pause to bring proof to bear on a question that is but incidental to the general argument—all newspaper men are frequently impressed and sometimes amused to find their own arguments repeated after them as new creations of the mind. Thus an editor may say to-day that the collapse of Russia's offensive is due not to casualties or to lack of men, but to her difficulties in procuring arms and ammunitions—a very

---

221,000; Kentucky, 247,000; Louisiana, 65,000; Maine, 82,000; Maryland, 380,000; Massachusetts, 1,815,000; Michigan, 780,000; Minnesota, 580,000; Mississippi, 43,000; Missouri, 1,498,000; Montana, 62,000; Nebraska, 305,000; Nevada, 17,000; New Hampshire, 60,000; New Jersey, 387,000; New Mexico, 15,000; New York, 5,355,000; North Carolina, 111,000; Ohio, 1,842,000; Oklahoma, 166,000; Oregon, 102,000; Pennsylvania, 2,488,000; Rhode Island, 133,000; South Carolina, 81,000; South Dakota, 49,000; Tennessee 298,000; Texas, 558,000; Utah, 67,000; Vermont, 44,000; Virginia, 228,000; Washington, 442,000; West Virginia, 129,000; Wisconsin, 464,000; Wyoming, 13,000. With all allowance for the influence of the local weekly press and for the circulation in other states of some of the newspapers that have a very large circulation, how does New York show the influence of its press, and wherein does Nevada suffer or benefit from the fact that it is almost without newspapers?

trite fact, to be sure, but one that may not have been stressed in the news columns—and the editor may cite illustrations and statistics to prove his case. A week or two weeks later the same editor will hear someone begin, "You know, I've been thinking about the reasons for the Russians' failure to employ their strength and I believe it is due——" and he will be regaled with his own facts and approximately his own figures. The new sponsor of this view would be offended if told that he got his views from his daily newspaper, yet such is the fact. Indeed, the very vagueness of the American phrase, "I read somewhere, I forget where," is the most eloquent proof of the impersonal but dominating influence of the press. The same truth is shown in those new phrases which the newspapers coin and the reading public adopts, altogether unconscious of the source of its inspiration. A volume might be written on the new additions made by the newspapers to the popular vocabulary in a decade.

If we concede the strength of this vast publicity we cannot, I think, avoid the conclusion that there is such a state of mind as that of the reading public. It has its peculiarities; it is controlled by rules which it is the ambition of every editor to discover and it shows itself in so many ways as to make *a priori* argument unnecessary. In citing some of these, as proof of the existence of this mind of the reading public, I shall with your permission so group them that you may anticipate from my examples the next point in my argument—that the mind of the reading public bears a close relation to the mind of the crowd and to the mind of the mob, as we know them psychologically, in that it reflects the elemental emotions and the primal instincts of human nature.

Let us first consider those in which there is the suggestion of panic.

I do them no injustice when I say that those who most fear the press of the country are the bankers. This is not because they have anything to conceal, but merely because experience has shown them the tremendous financial danger of an appeal by the press to the fears of the people. To cite two examples: Some time ago a newspaper printed in a foreign language in a large city published a brief, inoffensive item to the effect that the regular examination of a bank was being made. Unfamiliar with the meaning of this, certain foreign depositors who read the notice

became alarmed for their funds. The next morning found a line of them in front of the bank ready to withdraw their deposits; the frenzy of the ignorant aroused the fear of the more intelligent, in precise accordance with Ross' law, and soon there was a run on the bank which forced a closing of its doors and the impairment of its assets. And all because the editor unconsciously aroused the fears of his foreign readers by the publication of a notice that most newspapers have long ago learned to handle as they would dynamite.

Again, the run on the Knickerbocker and Carnegie Trust Companies, which led to the panic of 1907, while it was not due to newspaper publicity, was certainly increased to disastrous proportions by the immediate publication of the news that a crowd was gathering before the doors. On the other hand, who can say but that the disaster might have been averted had some newspaper rushed, to the street in front of the trust companies, an extra edition in which good authorities were quoted to the effect that the institutions were solvent and could pay their obligations.

Very similar in character is the effect of modern publicity on the public demand for commodities. For example, during the early days of the war a newspaper of my acquaintance printed on its front page an article in which an anonymous sugar refiner was quoted as saying, with many qualifications and provisos, that sugar might reach 15 cents the pound. The desk man in that particular newspaper office saw the " scare " in the item and prefaced it with a flaring headline, " Sugar 15 Cents a Pound." The person who read the entire story would, of course, realize that if that price was to be reached a number of things, all remote possibilities, had to come to pass. But owing to what Ross has called the American habit of paragraphesis, the busy housewives, or some of them at least, read only the first paragraph, " the lead." The result was a rush on the retail groceries and cut-rate tea stores that drove sugar from 7½ to 11 cents. One woman, whose normal family consumption of sugar was about seven pounds the week, did not rest content until she had purchased 300 pounds—at almost twice the price she would have had to pay three days later.

I have cited these simple and homely illustrations because it has seemed to me that they show as strikingly as do the money panics so well described by Conant, Gibson, Juglar and Sprague, or the

classic waves of speculation mentioned by Sidis (Psychology of Suggestion, 343-49), the readiness with which the public mind, under the stimulus of the press, can be led to acts for which there is no reasoning or reasonable explanation. Every newspaper has it in its power to reproduce on a small scale the Mississippi bubble or the tulip mania.

Close akin to these panics and like evidence of the existence of this mind of the reading public are those curious morality waves that sweep every country from time to time. In the seventeenth century it may be a Salem witchcraft frenzy, so carefully analyzed by Upham (Salem Witchcraft) and by Sidis (op. cit., 331 ff.); in the twentieth it may be, as now it is, the anti-vice crusades that are sweeping the country. The one was an appeal to the superstition and fear of the New Englander; the other makes a more detailed emotional and a scarcely less striking instinctive appeal to the fear of the intelligent city man. The one had the advantage of an historical priority of 200 years; the other offsets this by having at its command newspapers that fan to flame the natural concern of a chivalrous people for the safety of its women. Salem witches were tried by public opinion rather than by law; vice crusades—however much they may accomplish for good—are fundamentally the sentence imposed by the mind of the reading public. For how could they be organized in our complex society without the newspaper to crystallize and, sometimes, to misdirect the mind of its readers?

Of the same type, too, are the fears that come of some particular agent or means of destruction—crazes that are analogous to the "Great Fear" of 1789, that national hysteria so graphically described by Morse Stephens (French Revolution, 1, 178-79). The white slavery excitement is a case in point; the concern over the discovery and reported use of the Maxim silencer is another; the most striking by every count was the veritable mania that swept New York during the winter of 1913-14 as a result of the so-called "poisoned needle" disclosures. The last named I would especially commend to you for study, as it illustrates on a large scale a popular hysteria that would seem to have a connection with those individual cases of hysteria that sometimes lead to acute mania. Incidentally, the "poisoned needle" affair would seem to disprove Ross' first law of crazes—"the craze takes time to

develop to its height" (Ross, Social Psychology, 76). and to show how quickly the mind of reading public, through the wider circulation of newspapers, may become distraught with a sudden fear.

Taken together, it seems to me that these and like examples of the same character that have doubtless occurred to you illustrate the ready assertion of the emotion of fear and, indeed, of the instinct of flight, in the mind of the people as they read the papers —to use the words "emotion" and "instinct" as they are defined by McDougall (Introduction to Social Psychology [1909 edition], 49). Men withdraw their money from bank or dump their holdings on a declining market from the same instinct that prompts them to flee from a burning house; they become frenzied over vice crusades or white slavery or poisoned needles just as they became madmen from fear of witchcraft. And they act, not from the impulse given them by commingling on the street corners to be harangued by some wild orator, but from the suggestion conveyed to them primarily through the modern means of publicity. They may become a mob; they begin as a reading public. And the fears which but vaguely suggest themselves to the average mind find, in the columns of a certain type of newspaper, constant and exciting stimuli through "confirmation" of the wildest and most improbable stories.

But lest you think that this indictment applies to all newspapers, or is the constant fault of many, let me present the other side of the case and remind you that often the newspapers stabilize the public mind and allay the rumors they are sometimes charged with circulating. I cannot do better than cite, as proof of this, a single occurrence of comparatively recent date. The newspapers of Butte, Montana, were so threatened and bullied by labor organizations that they decided to give the city a taste of life without newspapers and, by agreement among themselves, all of them suspended. The result was a return to a "state of nature" and, incidentally, almost the bankruptcy of the two leading dry goods stores. The reason was not merely their inability to advertise their goods, but their utter impotence in the face of a rumor that smallpox had broken out among their clerks, rendering it dangerous to visit the stores. The newspapers, of course, could have laughed this rumor out of credence in a single issue.

Closely allied with these social phenomena that illustrate the emotion of fear and the instinct of flight are those in which the tendency of the public to exaggerate is asserted in a most striking but often in a somewhat confusing manner. So far as I know there has been no adequate analysis of these phenomena, but to you, as alienists, they are certainly important. The active, impatient and imaginative American mind—somewhat misinterpreted, I take it, by Le Bon (The Psychology of Peoples, 140)—is almost Gallic in its fondness for excitement and its readiness to jump to conclusions. It was perhaps never better judged than by one of the fathers of modern yellow-journalism who told his chief editors always to "feature" on their front page daily a story which, when he read it, would make the average man cry "Gee, whiz!" This "gee-whiz" mind is also strangely pessimistic for that of a people so young and so hopeful. The average man seldom hears any rumor that he does not construe into the worst disaster of that particular type for which he has any recent parallel. If a fire breaks out rumor at once declares it "the biggest fire" since such-and-such a well-remembered conflagration. If a drought is observed, it is certain to be the "worst drought" since such-and-such a year; if times are hard, they are destined to be "as bad as 1893" or as the direst period of depression recently observed. There must, likewise, always be taken into account the inclination of a certain type of mind deliberately or otherwise to magnify any report it receives and transmits to someone else. If a business house is having a dull season, gossip to that effect will soon have the concern on the verge of bankruptcy; if a man makes the least misstep, he is tried, convicted and sentenced by public opinion before the first evidence is presented. The simplicity of this process, its speed and its most alarming aspects are only discernible, I suspect, from the inside of a newspaper office, to which, in the nature of things, come all the requests of the public for the confirmation of the most absurd rumors. To cite a very simple illustration, we have in Richmond a venerable police justice who is a most unusual character—known to practically every one in the city. He has been in bad health for some years and has been forced to take several vacations for recuperation. I think I am within the facts when I state that not one of these vacations has passed but that at some

time during its progress the newspapers have suddenly been deluged with requests to know if the report be true that the judge is dead.

It is precisely the same throughout the country, I believe, when the President goes on a journey. If this be well advertised, and especially if it involves attendance upon any exposition or great gathering, the chances are that the newspapers will suddenly begin to receive inquiries if it is a fact that he has been assassinated. The reason, of course, is the recollection of President McKinley's fatal visit to Buffalo.[1]

These phenomena are of some interest in their origin and they offer a curious intermingling of the instincts of fear or apprehension, of curiosity and of the desires to anticipate conclusions and to be the first to report a fact of interest. But to you, gentlemen, they must primarily be of interest in the questions they raise in your mind as to the influence of the mind of the reading public on the disordered mind of the individual. If the people are so prone to exaggerate and to anticipate the worst, what may be the suggestive influence of the many on the few? Incidentally, these phenomena are of the greatest international moment at this time, inasmuch as the danger of war lies not in the possibility that the President will make a mistake or that Germany will assume a belligerent attitude, but rather that the newspapers may so fix the mind of the reading public and so work on its pessimism and impulse to exaggerate that it may force the government to war because the people believe that war is to be. It was so, as we all remember, in 1898.

We come now, with your permission, to that group of phenomena which, it seems to me, illustrates more clearly than any other the existence of the mind of the reading public and affords us the best basis for that analysis which is to show us the psycho-

[1] It so happened that the day after this paragraph was written, there came curious confirmation of the point made in the text through a wild rumor on the "ticker service" that President Wilson had been assassinated. The reason for this rumor was, of course, the general apprehension of the serious events that would follow the death of the President at the time when excitement over the Lusitania incident was at the highest. Incidentally, the stockmarket broke four points on some issues before a denial from Washington could be had.

Closely allied with these social phenomena that illustrate the emotion of fear and the instinct of flight are those in which the tendency of the public to exaggerate is asserted in a most striking but often in a somewhat confusing manner. So far as I know there has been no adequate analysis of these phenomena, but to you, as alienists, they are certainly important. The active, impatient and imaginative American mind—somewhat misinterpreted, I take it, by Le Bon (The Psychology of Peoples, 140)—is almost Gallic in its fondness for excitement and its readiness to jump to conclusions. It was perhaps never better judged than by one of the fathers of modern yellow-journalism who told his chief editors always to "feature" on their front page daily a story which, when he read it, would make the average man cry "Gee, whiz!" This "gee-whiz" mind is also strangely pessimistic for that of a people so young and so hopeful. The average man seldom hears any rumor that he does not construe into the worst disaster of that particular type for which he has any recent parallel. If a fire breaks out rumor at once declares it "the biggest fire" since such-and-such a well-remembered conflagration. If a drought is observed, it is certain to be the "worst drought" since such-and-such a year; if times are hard, they are destined to be "as bad as 1893" or as the direst period of depression recently observed. There must, likewise, always be taken into account the inclination of a certain type of mind deliberately or otherwise to magnify any report it receives and transmits to someone else. If a business house is having a dull season, gossip to that effect will soon have the concern on the verge of bankruptcy; if a man makes the least misstep, he is tried, convicted and sentenced by public opinion before the first evidence is presented. The simplicity of this process, its speed and its most alarming aspects are only discernible, I suspect, from the inside of a newspaper office, to which, in the nature of things, come all the requests of the public for the confirmation of the most absurd rumors. To cite a very simple illustration, we have in Richmond a venerable police justice who is a most unusual character—known to practically every one in the city. He has been in bad health for some years and has been forced to take several vacations for recuperation. I think I am within the facts when I state that not one of these vacations has passed but that at some

time during its progress the newspapers have suddenly been deluged with requests to know if the report be true that the judge is dead.

It is precisely the same throughout the country, I believe, when the President goes on a journey. If this be well advertised, and especially if it involves attendance upon any exposition or great gathering, the chances are that the newspapers will suddenly begin to receive inquiries if it is a fact that he has been assassinated. The reason, of course, is the recollection of President McKinley's fatal visit to Buffalo.[1]

These phenomena are of some interest in their origin and they offer a curious intermingling of the instincts of fear or apprehension, of curiosity and of the desires to anticipate conclusions and to be the first to report a fact of interest. But to you, gentlemen, they must primarily be of interest in the questions they raise in your mind as to the influence of the mind of the reading public on the disordered mind of the individual. If the people are so prone to exaggerate and to anticipate the worst, what may be the suggestive influence of the many on the few? Incidentally, these phenomena are of the greatest international moment at this time, inasmuch as the danger of war lies not in the possibility that the President will make a mistake or that Germany will assume a belligerent attitude, but rather that the newspapers may so fix the mind of the reading public and so work on its pessimism and impulse to exaggerate that it may force the government to war because the people believe that war is to be. It was so, as we all remember, in 1898.

We come now, with your permission, to that group of phenomena which, it seems to me, illustrates more clearly than any other the existence of the mind of the reading public and affords us the best basis for that analysis which is to show us the psycho-

[1] It so happened that the day after this paragraph was written, there came curious confirmation of the point made in the text through a wild rumor on the "ticker service" that President Wilson had been assassinated. The reason for this rumor was, of course, the general apprehension of the serious events that would follow the death of the President at the time when excitement over the Lusitania incident was at the highest. Incidentally, the stockmarket broke four points on some issues before a denial from Washington could be had.

logical importance of a proper direction of that mind. I refer to the phenomena in which the inclination to imitate is the dominant factor, and I do not think it necessary, for our purpose, to decide between the views of Tarde (Lois d'Imitation) and those of McDougall as to whether this is an instinct or a non-specific innate tendency. The distinction in any event is so small as scarcely to be worth while.

For convenience of discussion I shall ask you to let me divide these phenomena into four subdivisions—religious, criminal and suicidal, fashional, and recreational.

In referring to the imitative aspect of religious revivals, I dare not follow the interesting trail blazed by Sumner regarding religious customs (Folkways), and I trust I shall say nothing to give a material turn to that "change of heart" in which I most earnestly believe. But we must all agree that there have been many emotional upheavals in which the instinct to imitate played a very large part. The children's crusade was one (Ireland in Journal of Mental Science, 52, 745, etc. See other references quoted by Howard, op. cit.). The famous Kentucky revival, so often mentioned in the reference works on social psychology, was another (McMaster, History People United States, quoted in Ross, op. cit., 50 ff.). A third we see in the remarkable meetings held by Mr. Sunday. If it be true, as claimed, that Mr. Sunday has been the means of converting more persons than any minister since apostolic times, we must attribute the fact not only to the remarkable powers of the man, but to the skill with which he uses every means to arouse the imitative instinct. It is in no empty desire for self-glorification that he employs some of the best press agents in America; it is not to attract attention to his own belligerent personality that he asks to be given the whole front pages of the newspapers in the cities where he holds his meetings. He knows that there is a mind of the reading public and that the instinct to imitate can best be aroused by filling the minds of the people, before they come to his tabernacle, with the subtle suggestion of an invincible spiritual and emotional appeal. In no desire to criticise him or to pass judgment on his methods, I submit that Mr. Sunday is a most successful revivalist because he is, among other things, an exceptionally shrewd psychologist. Thanks to modern methods of publicity, he has half his work done for him before he mounts the platform.

It may seem somewhat incongruous to turn immediately from the mind of the reading public as shown in religious revivals to the mind of the reading public as shown in suicide and criminal waves; but they rest, in part at least, on the same psychological foundation. There are few, if any, more striking social phenomena than the contagion of suicide. Seeck (Untergang der Antiquen Weld, 1, 258 ff.) attributed the suicide waves of ancient Rome to that "pessimism" which "took possession of the old peoples at the beginning of the Christian era"; modern writers have found somewhat the same explanation for the high suicide rates of certain European countries. Whether this can possibly be the case in so young a country as America it is not my task to discuss; but that there is a strong imitative factor in the methods of suicide is a truism among observant newspaper men. All of us know that if a particular form of suicide is reported with dramatic detail in the newspapers, the next suicide and probably the next group of suicides in the same city will be by the same means, within certain limitations, to which I shall presently call attention. Sometimes, if a suicide be given unusual publicity, it will be imitated throughout the country. The recent bichloride of mercury wave was, by all counts, the most striking example of this kind that has occurred during my recollection. You will remember its origin and progress. A Georgia business man took corrosive sublimate by accident and, after he was told that he would certainly die, he went very deliberately about setting his house in order. As you doubtless observed at the time, the facts were not as they were dressed by some conscienceless and imaginative reporter, for a man who was dying of bichloride poisoning could not entertain his friends at banquets and speculate, Cato-like, on his coming dissolution. But the dramatic element in the case aroused the imitative instinct among those who contemplated suicide and found it easy to procure bichloride tablets. The result was a most alarming wave of poisoning with this compound. I counted twenty reports of such suicides in a few weeks, and was not surprised when a leading medical organization felt called on to tell the public (through its publicity bureau of course) that if persons would insist upon committing suicide they could do so with much less trouble and torture than by taking bichloride tablets. The same waves are to be observed in suicides from

shooting, drowning and the like, with carbolic poisoning always to the fore, primarily because this acid is universally known and can usually be purchased without difficulty, thanks to our clumsy drug-laws.

The same instinctive tendencies show themselves in crime, both individual and communal. In a Tennessee city, for example, a well-dressed woman walked into a barber-shop with a revolver concealed in her muff and, calmly drawing the weapon, shot her lover to death as he sat in the barber's chair. The unusual character of the crime and the strange setting placed the story on the front pages of the papers of that city. The appeal to the imitative impulse was strong; within a few weeks two colored women, procuring muffs and following the precise details, shot their lovers in barbers' chairs.

I need scarcely illustrate, in this classification, the now familiar psychology of lynchings. Le Bon (The Crowd) has explained how, in such an outbreak of law defiance, the mind of the mob is baser and more criminal than that of the individuals composing it; Ross has shown how the worst elements dominate (op. cit.); a number of observers have accurately attributed this to the instinct of men to imitate, through the mere stimulus of the crowd, the violence of the worst. The point I wish to make is that lynchings have usually occurred where the public mind was aroused by the horrible details of the tragedy, as reported in the newspapers, and by the unconscious suggestions of violence in the presumably accurate published statements that such action was considered in the crowds that "gathered on the street corners." There must, in a word, always be a stimulus; it is more often the unintentional hint of the newspaper than the cry of some desperado, "Come on, let's lynch him." On the other hand, I submit, subject to correction by those whose observation has been wider, that few lynchings ever occur where the press can state at the outset, on proper authority from the executive, that special deputies will be sworn in or that the militia will be called out to enforce the law. The fact that Virginia has not had a lynching in almost 20 years is to be attributed, I think, to the emphasis of the newspapers on this point, and to the uniform promptness of our Governors in declaring that the whole force of the commonwealth would be exerted to prevent violence.

The chief deterrent in the imitation of suicides, needless to say, is the horrible suffering of the victim on his non-success, or, in the case of crime, the immediate punishment of the perpetrator. This is of course nothing more than plain common sense, familiar to all; but it is illustrated sometimes in a manner that may escape observation. In suicides, in particular, there is always in the disordered mind of the would-be self-destroyer a desire to do something dramatic and to make way with himself with the least possible suffering. In such instances the prospect of defeat or of suffering is usually a deterrent from the imitation of a particular method. Hedda Gabler's horror at the means of Eilert Lovborg's death, as told by Ibsen, is psychologically sound (Hedda Gabler, Archer's Translation, Ibsen's Collected Works [1909 edition], 10, 176). We see like instances almost daily in our newspapers. Not many months ago, for example, an unhappy woman attempted to jump to death from a high building in one of our cities. She was restrained, was arrested and was given most undesirable publicity. Only one woman seemed determined, in the face of this warning, to attempt the same act in the same manner. Going to the identical building, she threw herself down and was picked up from the concrete court of the building an unrecognizable mass of flesh and broken bones. The newspapers which had printed the failure of the former woman to commit suicide published the story of the latter woman's success and gave in all detail the horrible picture of the body. It may safely be ventured that none who read that story will be inclined to imitate the victim; and it may also be stated with some assurance that had the Georgia newspapers presented to their readers the suffering rather than the stoicism of the citizen who started the bichloride wave by accident, that form of suicide would not have been repeated.

As for the deterrent influence of punishment, who has read of a second lynching in a town where members of a lynching party were convicted even of manslaughter? And who fancies that another court tragedy will follow the conviction and execution of the Allens?

Ere I pass from this phase of the subject, permit me to suggest that there must be material for very fruitful investigations along these lines in your suicidal and homicidal wards. Does the law of

imitation apply there as fully as in the normal walks of society, where the vast and varied influences of publicity are at work?

The imitation shown in fashions presents many striking illustrations of the mind of the crowd and of the mind of the reading public, but as these are all familiar, I need only dwell on one fact, that the publicity which makes fashions is, within certain bounds, the publicity that destroys them. We owe the curious "tight skirt" scarcely less to the necessities of modistes than to the emphasis placed upon its fashionable character by the women's periodicals and the newspapers. We owe its disappearance not only to those whose income depended upon making something else popular, but also to the newspapers which ridiculed it. The imitative rule in dress is, of course, to carry any fashion to the extreme—as witness crinoline, the large sleeves of the nineties, and the merry widow hats of five years ago; but the cartoonist can destroy what the designer makes. Goldberg is not less potent as an arbiter of fashions than Chéruit or Lacroix, and the shops of the Paris boulevards would close in a season were it not for the women's pages of the dailies.

The same is true of the amusement manias, the psychology of which is so well known as not to need discussion here. One need only remark that in this respect the instincts which showed themselves in the dance manias of the middle ages, so graphically described by Hecker (Dance Manias of the Middle Ages), have not changed in the slightest in 400 years. On the contrary, it is perhaps safe to say that Ross' law on this subject could not be stated with so much precision (op. cit., 76 ff.) were it not that what is done at Churchill's to-night can be known throughout America to-morrow, or that Mrs. Vernon Castle's newest step can be reproduced in every motion-picture theater in the country almost before her first New York pupils have been perfected in it. As for baseball, the "world's series score-boards" in all the American cities show how the newspapers have not only created an interest, but have actually visualized a scene that sets thousands of men to cheering.

In all of this we see what Tarde has so beautifully described in his classic description of the spread of the domestic arts—"the unheard-of sight of many vast nations feeling, at the same time and in about the same way, the beautiful and the ugly, good and

evil, admiring or mocking at the same pictures, the same novels. the same dramas, the same operas, applauding the same acts of virtue or becoming indignant over the same crimes, crimes that are made public by the daily press in the four corners of the globe at the same time." (Tarde, Law of Imitation [Parsons' translation], 345.)

The confines of this paper make it impossible for me to further illustrate the manner and extent to which the reading of the people shapes the mind of the people. But I trust I have said enough to show you that this publicity sometimes determines a state of mind in the reading public and that its effects on the people as a whole may be different from its effects on perhaps any single reader. I think it may even be said—though it is not necessary for our argument—that the congregate effect is greater than the sum of the effects on the individuals. This is at least in accord with what we know of social psychology.

But if we admit so much, what then? The important task—for you, gentlemen, the only useful task—is to ascertain the bearing of this publicity on the mental life of the people, to determine how the mind of the reading public affects the minds of those of unstable mentality, and to see what may be necessary to keep sane the mind of this reading public.

Psychologically, the aim of the press must be to link the individual with the crowd, and to unify the mind of its reading public. This is necessary for good government; it is necessary to protect the people from unscrupulous politicians; it is necessary to give expression to that which we call the "will of the people"; it is necessary to safeguard public interests from the indolence of the individual. Were the newspapers to fail in this, we should be an army which had no outposts, a city with no watchmen on the tower. We have left so much to the newspapers and have become so dependent upon them, as our cities have grown, that they are almost as necessary a public utility as a system of transportation, and almost as essential to political health as are water supplies and sewage disposal to public health. If we deny their mission to unify, indeed to create, the mind of the reading public, we take from the newspapers their most useful mission.

On the other hand, the newspapers must keep the mind of the crowd from becoming the mind of the mob, or, to state the case

in its psychological sense, must keep the instincts from overcoming the sentiments, the reason and the emotions of the people. To illustrate this very simply, the press must so consolidate the mind of the voters and so inform them through the newspapers they read, that the people will not give away their valuable franchises for naught; but the press must restrain the very forces it has set in motion, lest it encourage that corporation baiting which leads to the overthrow of property rights and brings us to the verge of anarchy. The press must, to take still another case, so arouse careless individuals that they will demand good government and hold to a strict accountability the public officers they choose; but the newspapers must repress that instinct which would, in correcting one abuse, open the way to another and a worse.

To direct the mind of the reading public and to keep it from becoming the mind of the mob—this is a task in which, it seems to me, the press of America needs your assistance. We have had the preventives of the mob mind pointed out for us by Ross and McDougall—education, better teaching and leadership, a better press, a better literature, a better environment, more stable institutions and more strongly emphasized family life. But these are the standing remedies for all social ills. If we are really to take preventive measures, we must understand more completely the method of infection. We must know precisely what there is in some newspapers that drives men mad and foments the mob spirit. We must go to individual cases and must ascertain, if it be possible to do so, just what influence from the mind of the reading public may upset the mind of the man who comes sooner or later to your hospitals. Editors see the danger and sometimes they see the victims—men who become anarchists from reading of social injustice, men who have delusions that seem to bear a very close relation to their newspaper reading. We need to investigate every such case carefully and to weigh the newspaper in its relation to the social causation of insanity. How much of the excitement that stirs, or is synchronous with mental disorders is due to the newspapers? How many cases have you in your hospitals whose mania could, upon investigation, be traced to the suggestion of the press or to the mind of the reading public? What do we print that is dangerous and what may we print that is wholesome? How can we do the work we owe society and government without

danger to those we would serve? How far must we go in preparing newspapers that are "mentally safe," not only for the strongest but for the frailest mind?

I warned you that I should conclude this paper with nothing more stable than questions, and now I have asked them. They may be worth your answering. They may make it of some interest to you to investigate your patients' history for the possible influence of the mind of the reading public.

For who knows what we may find of the social causes of insanity? We are on the frontier of a new continent. Just as the methods you employ to-day are as different from the regimen of the straight-jacket as the democracy of America is different from the autocracy of a Sforza, so it may be that in prevention, as in treatment, we shall find new angles of approach and deep-seated causes as yet beyond our vision. I do not know. I should be presumptuous to speculate. But I cannot think it will be futile for you to delve with master hands where I have but touched with amateurish fingers, and to ascertain if there be not some connection between those instincts which are wont to warp the mind of the reading public and those mental disorders which are but exaggerated instincts.

RECENT EXTENSION OF OUT-PATIENT WORK IN MASSACHUSETTS STATE HOSPITALS FOR THE INSANE AND FEEBLE-MINDED.*

By L. VERNON BRIGGS, M. D.,
Member and Secretary of the Massachusetts State Board of Insanity,
AND
A. WARREN STEARNS, M. D.,
Assistant to the Massachusetts State Board of Insanity.

The present State Board of Insanity was appointed in August, 1914, and within a week it took up the question of extending the out-patient work of each state hospital throughout the districts which the several hospitals covered.

The School for the Feeble-Minded had for 25 years held a clinic at its hospital; the psychopathic department of the Boston State Hospital had been holding out-patient clinics since it opened in 1912; and the Danvers Hospital had made plans for out-patient service.

In establishing a policy which would affect all institutions for the insane and feeble-minded, it was the intention of the board to stimulate each hospital to "reach out," as Dr. Adolph Meyer once said, "into the community and be responsible for the mental health of the community or district which it covers." The board voted that each hospital then doing out-patient work should extend the same along the general plan outlined for all the institutions, that the work might be uniform, and that those institutions which had not been doing any out-patient work should, at the earliest possible date, establish out-patient departments and out-patient clinics in the several large cities in their own district, preferably in the evening, when patients needing such advice could conveniently attend without interfering with their duties or jeopardizing the positions which they might hold. This would also enable the staffs of the hospitals to hold clinics without interfering with their hospital work. The board felt that these clinics could be started without an increase of expense or an increase in the staffs,

* Delivered at the seventy-first annual meeting of the American Medico-Psychological Association, Old Point Comfort, Va., May 11-14, 1915.

as members of the staffs would appreciate the opportunity to see early cases, work along the lines of prevention, and also to see discharged patients, thereby keeping track of them.

Some hospitals already had after-care or social-service workers. All hospitals were urged to take on such workers who should be present at each clinic. It was hoped that the out-patient departments would eventually cover the work of the clinics, the after-care or social-service work, mental hygiene and boarding out. It was also hoped to stimulate the discharge of cases earlier than had before been possible, for many suitable patients could safely be sent out if clinics were established in or near the town or city where they resided. The after-care or social worker would be glad to get in touch with new cases who first came to the clinics, would see the discharged cases or look them up if they did not report, and often be able to interview members of the families of patients in the hospitals who could come to the clinics but who could not conveniently come to the hospitals.

The board believed that the out-patient department would be the first important step for the prevention of mental disease in this state, and that the supervision and after-care of patients would prevent the return of many who had been discharged. Out-patient departments are not alone for medication and treatment, but also for education and for the interpretation of the functions of the great state hospitals. A comparison may well be made here with the public health center idea. Formerly the responsibility for the supervision of the boarded-out patients had been centralized in the State Board of Insanity. The board began in August, 1914, to decentralize this supervision, placing the patients in their own districts under the supervision and immediate care of the hospitals, each hospital assuming the responsibility for the patients in its district.

On September 30, 1914, Taunton State Hospital had 11 patients boarded out in family care; Northampton had 24 patients; Westborough, 3; Boston State Hospital, 1 patient; a total of 39.

On April 1, 1915, Worcester State Hospital had 38 patients boarded out in family care; Taunton had 43 patients; Northampton, 28; Danvers, 6; Westborough, 45; Boston State Hospital, 28; Medfield, 32; Gardner State Colony, 23; 243 in all.

OUTLINE FOR OUT-PATIENT WORK AT MASSACHUSETTS STATE HOSPITALS.

Hospital (out-patient department).

- **Clinic**
  - Examination and treatment of all pre- and non-hospital cases, such as psychoneuroses, alcoholics, syphilitics and mild insane.
  - Diagnosis of feeble-minded.
  - Training for practicing physicians in mental disease.
  - Examination of special cases for courts, physicians and social agencies.
- **After-care work**
  - Systematic follow-up work, such as interviews with patient and family before discharge, supervision when discharged, employment aid, return to clinic at hospital when advisable.
  - To take out-patients from other hospitals if in district.
- **Boarding-out work**
  - Study of hospital cases, investigation of future boarding places, supervision of patients boarded out in district, co-operation with state boarding-out system.
- **Mental hygiene and prevention**
  - Education of medical and lay public in matters relating to prevention of insanity. Care of insane by state or community.
  - Eugenics, alcohol and syphilis problems.
  - Scope of state work in general.

Organization of Out-Patient Staffs.

Medical head of out-patient department..

- **Medical assistants**
  - Doctors and internes or medical students and psychologists from hospital or community, especially practicing physicians in neighborhood to work in clinic.
- **Social service**
  - Paid and volunteer workers to work in clinic and out, with an after-care and boarding-out worker.
- **Clerks**
  - Historian and stenographer and record clerks, to work in clinic and also in clerical part of other work.

At the end of about one month, or on October 1, 1914, 417 persons had attended the clinics. Danvers State Hospital had opened clinics in Haverhill, Lawrence, Gloucester and Lynn. The superintendent, assistant superintendent and social worker attended each of these clinics.

Worcester State Hospital opened a clinic on September 1, with a total of 15 patients attending the first month; and the Psychopathic Hospital had 358 persons visit its clinics during the month.

At the end of seven months, or on April 1, virtually every part of the state was covered; clinics had been opened by the Worcester State Hospital at Worcester and Spencer; Taunton State Hospital at Taunton, Fall River and New Bedford; Northampton State Hospital at the hospital, at Springfield, Greenfield and Pittsfield; Danvers State Hospital at Lawrence, Gloucester, Haverhill, Lynn, Salem and Newburyport; Westborough State Hospital at the hospital and at the Homeopathic Hospital in Boston; Gardner State Colony at Fitchburg and Winchendon; Monson State Hospital has clinics for epileptics; Massachusetts School for the Feeble-Minded at the school, at Worcester, Taunton and Fall River.

For the three months ending April 1, there was a total of 2536 visits, an average of 845 a month, for nine institutions. The number of first visits for this period was 671, or an average of 223 a month. At this rate, 2676 patients would be seen in a year, which is 72 per cent of the total number of commitments as insane for the year ending September 30, 1914. These figures indicate, however, that this number would probably be considerably larger at the close of the year.

Cases have been referred to the clinics by physicians, by other hospitals, by charitable and other organizations, by the courts, by schools, some have come on their own initiative, and many discharged patients have reported at the request of the hospitals.

The following is a copy of the form for report rendered each month by the out-patient departments:

REPORT OF OUT-PATIENT DEPARTMENT.

.....STATE HOSPITAL.

FOR THE MONTH OF.....

Clinics:

	Males.	Females.	Totals.
Total number of first visits	....	....	....
Total number of visits by all patients	....	....	....
Number of different patients	....	....	....
Sources of first visits:			
Referred by physicians	....	....	....
Referred by other hospitals	....	....	....
Referred by charitable and other organizations	....	....	....
Referred by courts	....	....	....
Referred by schools	....	....	....
Came on own initiative	....	....	....
Cases discharged from this hospital reporting for first time	....	....	....
Miscellaneous and unknown	....	....	....
Total	....	....	....

Clinics held:

Hospital. Day and date. (If regular days, give such with hours.)

At other places. (Give city or town, place and date, with total patients, first visits and total after-care cases reporting for such.)

New clinics established. Where and when?

After-care:

Total number of patients leaving hospital	....
Total number discharged to after-care	....
Total number of visits by social worker	....
Total number of patients visited by social worker	....
Total number of patients on visit	....

Boarding-out:

Total number boarded out by hospital	....
Total number placed this month	....
Total number returned this month	....
Total number visited this month	....

Mental Hygiene:

Lecture or talk by member of hospital	....
Public meetings under auspices of hospital	....
Any other activities with exhibits, sales, etc.	....

Remarks:

The social-service worker is proving an important factor in the thoughtful discharge of patients; for example, in one of our state hospitals a patient under consideration for discharge is held until a report has been received from the social-service worker of the home conditions or environment into which the patient must return. In other words, the medical and social elements are considered in every discharge.

The problem of the feeble-minded has had special attention by the opening of clinics in different parts of the state. The attendance at these clinics of patients and physicians seeking advice has been so great that the staff physicians have been obliged to turn some away, owing to the length of the clinic and the mental fatigue of the examining physicians.

Another extension of the hospital work is the wider public cooperation effected by meetings of medical societies held in the hospitals, and talks on modern care and treatment of the insane and the relation of the state hospitals to the public, by members of the hospital staffs at medical and other public meetings outside the hospital.

An interesting development has been the service rendered private physicians who have sought advice of the out-patient staff for their own patients. One illustration will indicate the enthusiasm with which this movement has been received: After a hospital in the western part of the state had opened clinics in two cities in its district, the physicians of a third and important city petitioned the superintendent of the hospital to open a clinic in their city; and this was promptly done.

The hospitals are open to the public and may be visited daily, including Sunday.

At the end of seven months we can say that the out-patient department has proved a success and has met the fondest hopes of the board.

The number of physicians who attend these clinics is surprising; in some of the early clinics they out-numbered the patients. They are invited to bring their patients to the clinics, to consult with the physicians on duty at the clinics regarding patients they may have, with the hope of so caring for them as to prevent institutional treatment, if possible. The hospitals, medical societies and other organizations have gladly given space for the clinics free of charge, and the expense so far has been a negligible amount.

KEY TO MASSACHUSETTS STATE BOARD OF INSANITY MAP, SHOWING OUT-PATIENT DEPARTMENTS.

Districts indicated by parallel lines, oblique lines, oblique broken lines dotted surface and clear space.

I. Northampton State Hospital, with clinics at Pittsfield (1), Greenfield (2) and Springfield (3).

II. Monson State Hospital (for Epileptics), with joint clinics at Pittsfield (1), Greenfield (2) and Springfield (3).

III. Gardner State Colony, with clinics at Fitchburg (8) and Winchendon (21).

IV. Worcester State Hospital, with clinics at Spencer (4) and Worcester (5).

V. Grafton State Hospital, with clinic at Worcester (6).

VI. Westborough State Hospital (Homœopathic), with clinics at Westborough (7) and Boston (13).

VII. Medfield State Hospital. No clinics.

VIII. Wrentham State School. No clinics.

IX. Taunton State Hospital, with clinics at Taunton (9), Fall River (10) and New Bedford (11).

X. Bridgewater State Hospital, with clinic at Brockton (12).

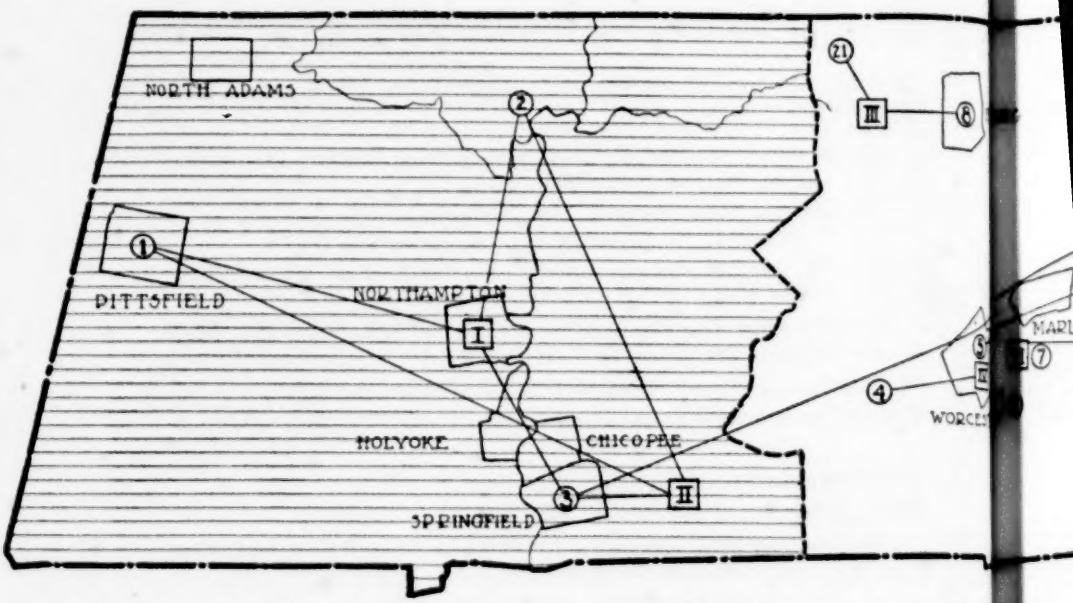
XI. Boston State Hospital, with clinic at Psychopathic Department (14).

XII. Psychopathic Department, Boston State Hospital, with clinic at Boston (14).

XIII. Massachusetts School for the Feeble-Minded, with joint clinics at Springfield (3), Worcester (5) and Taunton (9).

XIV. State Infirmary at Tewksbury. No clinics.

XV. Danvers State Hospital, with clinics at Lynn (15), Salem (16), Gloucester (17), Newburyport (18), Haverhill (19) and Lawrence (20).



COMMONWEALTH OF MASSACHUSETTS
STATE BOARD OF INSANITY
PLAN SHOWING OUT-PATIENT DEPARTMENTS

MILES

0 5 10 15 20 25 30

WARREN H. MANNING — LANDSCAPE DESIGN
BOSTON MASS — MAY 8, 1915

N°1105-1-1

~LEGEND~

MAIN INSTITUTION, SHOWN THUS □
OUT-PATIENT DEPT'S SHOWN THUS ○
LINES FROM HOSPITALS TO OUT-PATIENT DEPARTMENTS SHOW
CITIES ARE NAMED AND ARE SHOWN THUS ⬠


NEWBURYPORT
HAVERHILL
LAWRENCE
LOWELL
GLOUCESTER
BEVERLY
SALEM
WOBURN
MELROSE
LYNN
MALDEN
MEDFORD
SOMERVILLE
REVERE
EVERETT
CHELSEA
WALTHAM
BOSTON
CAMBRIDGE
NEWTON
MARLBOROUGH
QUINCY
BROCKTON
ATTLEBOROUGH
TAUNTON
NEW BEDFORD
FALL RIVER

OWN THUS ———

SOME NEGLECTED PHASES OF IMMIGRATION IN RELATION TO INSANITY.*

By A. J. ROSANOFF, M. D.,
Kings Park State Hospital, Kings Park, N. Y.

According to the thirteenth census of the United States, there were, on January 1, 1910, 188,874 white persons of known nativity in institutions for the insane and feeble-minded; of these, 55,343, or 29.3 per cent, were foreign born; 109,538 were native born of known parentage; and of these, 33,599, or 30.7 per cent, were of foreign or mixed parentage.

The figures given for the state of New York are even more striking. There were, on the same date, 33,380 white persons of known nativity in institutions for the insane and feeble-minded; of these, 13,814, or 41.4 per cent, were foreign born; 17,103 were native born of known parentage; and of these, 8278, or 51.0 per cent, were of foreign or mixed parentage.

It is evident from these figures that immigration in relation to insanity presents economic problems of considerable importance; but of far greater importance are the problems of eugenics suggested by them. For, turning again to the census statistics, we find that, in the United States as a whole, during the ten years from 1900 to 1910, the native born of native parentage, among the white races, increased by 20.8 per cent, while the native born of foreign or mixed parentage together with the foreign born increased by 24.7 per cent. In the state of New York, during the same period, the native born of native parentage increased by 13.2 per cent, while the native born of foreign or mixed parentage together with the foreign born increased by 33.2 per cent.

Thus, in the United States as a whole, the native-born population of foreign or mixed parentage together with the foreign born constituted among the white races, in 1900, 38.7 per cent, and in 1910, 39.5 per cent. In the state of New York they constituted, in 1900, 60.2 per cent, and in 1910, 64 per cent.

* Delivered at the seventy-first annual meeting of the American Medico-Psychological Association, Old Point Comfort, Va., May 11-14, 1915.

In other words, the rate at which the population of foreign birth or parentage is increasing, especially in the state of New York, is greater than that of the native population; and it has been pointed out that, should such conditions continue to prevail, the racial composition of the population will gradually change and eventually become more or less like that of the "new immigration"; the prevailing elements, instead of being Dutch, English, Scotch, German, Irish and Scandinavian, will be Italian, Slavonic and Hebrew.

From the psychiatric standpoint it is especially important to know whether or not among the immigrant races insanity, feeble-mindedness and other neuropathic conditions are more prevalent than among the older white population of the United States.

Although this question has already been made the subject of intensive statistical studies, it can by no means be said as yet to be definitely disposed of. The object of this paper is to present an examination of certain data which have but recently become available and which have been, perforce, neglected in studies made heretofore.

§ 1. Methods Hitherto Employed in Comparing the Incidence of Insanity in Foreign- and Native-Born Elements of the Population.

Two methods have hitherto been employed in comparing the incidence of insanity in foreign- and native-born elements of the population.

In the first of these the number of institution inmates in relation to the population at large on any date arbitrarily selected for the enumeration serves as the basis of comparison. This method, employed by Koren,[1] Salmon,[2] and others, seems to show that the foreign-born population, with the exception of but two or three individual races, has a higher incidence of insanity than the native-born population.

Thus, by calculation of the data furnished by the thirteenth census, we find that on January 1, 1910, there were in the institutions for the insane and feeble-minded in the United States 195.3 native-born and 414.7 foreign-born persons per 100,000 of the total native- and foreign-born population respectively. Similarly, in the state of New York, there were 313.7 native-born and 506.1

foreign-born institution inmates per 100,000 of the total native- and foreign-born population respectively.

Objection is made to this method on the ground that it does not fully reveal the contrast in incidence of insanity which exists between the native- and foreign-born population: "There were 2737 foreign-born patients among the first admissions to the New York state hospitals during 1911, and in that year more than 28 per cent of all foreign-born patients admitted were returned to their homes abroad. This greatly reduces the number of foreign-born patients remaining in public institutions" (Salmon).[2]

This method has also many other shortcomings which need not be discussed here beyond pointing out that they are so great as to have led to its general abandonment.

In the second method, the number of first admissions to institutions in a given year in relation to the population at large serves as a basis of comparison. This method has been employed by Pollock [1] and by Salmon,[2] both making use of the same material, namely, the statistics of first admissions to the state hospitals of New York for the fiscal year ending September 30, 1911. They have shown that the native born have furnished 46.4 first admissions and the foreign born 100.3 per 100,000 of their total population; that "the frequency of insanity among the foreign born throughout the state is, therefore, 2.19 times as great as among the native born"; and that "the rate of insanity among the foreign born of New York City is 2.48 times that of the native born."[1]

It is only fair to add, in this connection, that both these writers have recognized the error which results from not taking into account the differences in age distribution between the native- and foreign-born population groups. Salmon refers to it in the explanation which he offers for the great excess of insanity in representatives of the "old" as compared with those of the "new" immigration, while Pollock, writing in the early part of 1912, states: "No statistics of the age distribution of the population of the state at the time of the 1910 census are available. It is therefore impossible to calculate just what allowances should be made in determining the relative frequency of insanity among the foreign born."

The census data having since become available, it is now possible to eliminate largely, if not wholly, this source of error.

Table 1 shows the age distribution of the native- and foreign-born population in the state of New York, according to the thirteenth census; and Table 2 shows the absolute number of first admissions to the state hospitals and the number per 100,000 of the general population, during the fiscal year ending September 30, 1911, classified by nativity and by ages, according to the report of the State Hospital Commission.[1]

TABLE 1.—AGE DISTRIBUTION OF NATIVE- AND FOREIGN-BORN WHITE POPULATION OF THE STATE OF NEW YORK ACCORDING TO THE U. S. CENSUS ENUMERATION AS OF APRIL 15, 1910.

Age Groups.	Native.		Foreign born.	
	Number.	Per cent.	Number.	Per cent.
Under 15 years.....	2,268,910	36.4	191,013	7.0
15 to 19 years.....	649,255	10.4	182,629	6.7
20 to 24 years.....	575,503	9.2	344,930	12.6
25 to 29 years.....	488,931	7.8	368,870	13.5
30 to 34 years.....	434,629	7.0	316,096	11.6
35 to 39 years.....	405,317	6.5	291,520	10.7
40 to 44 years.....	335,363	5.4	254,065	9.3
45 to 49 years.....	284,133	4.6	211,716	7.7
50 to 54 years.....	247,716	4.0	165,043	6.1
55 to 59 years.....	173,560	2.8	117,235	4.3
60 to 64 years.....	130,383	2.1	105,024	3.9
65 years and over....	235,491	3.8	178,845	6.6
All ages, including those of unknown age	6,237,570	100.0	2,729,272	100.0

TABLE 2.—FIRST ADMISSIONS TO NEW YORK STATE HOSPITALS FOR THE YEAR ENDING SEPT. 30, 1911, CLASSIFIED BY NATIVITY AND BY AGES.

Age Groups.	Total Number.		Number per 100,000 of the general population.	
	Native.	Foreign.	Native.	Foreign.
Under 15 years.....	13	1	0.6	0.5
15 to 19 years.....	169	113	26.0	61.9
20 to 24 years.....	302	305	52.5	88.4
25 to 29 years.....	332	343	67.9	93.0
30 to 34 years.....	326	321	75.0	101.6
35 to 39 years.....	341	284	84.1	90.7
40 to 44 years.....	294	305	87.7	120.0
45 to 49 years.....	274	223	96.4	105.3
50 to 54 years.....	239	205	96.5	124.2
55 to 59 years.....	181	141	104.3	120.3
60 to 64 years.....	118	133	90.5	126.6
65 years and over.....	322	344	136.7	192.3
All ages, including those of unknown age	2923	2737	46.9	100.3

It is to be noted that in both the native- and foreign-born groups the incidence of certified insanity increases sharply with advancing age; it is also to be noted that the population under 15 years of age, which furnishes scarcely any hospital admissions, constitutes for the native population at large no less than 36.4 per cent and for the foreign born only 7.0 per cent of the whole; and, furthermore, the reverse is true for the higher age groups which furnish the greatest relative numbers of hospital admissions; the age groups of 50 years and over constitute for the native population at large only 12.7 per cent, and for the foreign born no less than 20.9 per cent of the whole.

These statistics, if analyzed without providing correction for the differences in age distribution, show that the native population, on the whole, furnished 46.9 and the foreign born 100.3 first admissions per 100,000 of their general population. But simple calculation shows that, upon eliminating the error resulting from the differences in age distribution, the relative corrected figure for the native population becomes 74.1.

In other words, the foreign born furnish on the average, age by age, not 2.19 times as many first admissions as the native, as asserted by Pollock and repeated by many others, but only 1.35 times.

Another source of error, also referred to by the above-mentioned writers, lies in the difference between the native- and foreign-born population as to percentage of town dwellers. Everyone knows that an urban environment brings to the surface the neuropathic tendencies of a community far more fully than a rural environment. Thus, according to the thirteenth census, the white native population dwelling in rural districts, 38,189,868 in number, furnished 15,263 admissions to insane hospitals during 1910, which makes a rate of 40 per 100,000; while the white native population dwelling in urban districts, 30,196,544 in number, furnished 22,257 admissions, which makes a rate of 73.7 per 100,000, or 1.84 times as great as the rate for rural districts.*

The census also shows that in 1910, 26.6 per cent of the native population and only 9 per cent of the foreign-born population in

* The Census Bureau, for purposes of discussion, has defined urban population as that residing in cities and other incorporated places of 2500 inhabitants or more, and rural population as that residing outside of such incorporated places.

the state of New York resided in rural districts. Calculating again, to eliminate the error resulting from this difference in environment, we find that the figure representing the relative number of first admissions per 100,000 of the native population now rises to 80.8. Accordingly, the apparent excess of incidence of insanity among the foreign born is again reduced; the rate is now but 1.24 times as great as that for the native population.

But is even this figure to be accepted without qualification? Who knows what allowance must be made for the heavy stress which is entailed in the migration and in the subsequent process of adjustment to new conditions and more exacting standards of living? It would seem that any excess in the incidence of insanity that can properly be attributed to the influence of this special stress is not to be regarded as evidence of a more prevalent inherent tendency among foreign-born persons to develop neuropathic manifestations.

Again, who knows what further allowance for less obvious sources of error would have to be made before the statistics of the foreign-born insane could be rendered strictly comparable with those of the native insane?

It is, indeed, an open question whether, after all allowances have been made, any material difference as to incidence of insanity would still be found between the native- and foreign-born population groups. But in practice, we could never be sure of having made all necessary allowances and of having eliminated all possible sources of error; the question is, therefore, one that is hardly susceptible of direct investigation; it can, however, be approached indirectly.

Such an indirect investigation will be undertaken in the next section of this paper, while the remainder of this section will be devoted to a consideration of the effects of another migration, one affecting the native American population alone, namely, the migration from the eastern to the western coast.

According to the thirteenth census, there were in the state of California, on the date of enumeration, 903,996 persons who were born in California and 79,992 who were born in New York.

According to the report of the California State Commission in Lunacy,[1] there were among the patients admitted to the hospitals for the insane in that state, during the biennial period ending

June 30, 1910, 639 who were native Californians and 147 who were natives of the state of New York.

By calculation, we find that the Californians have contributed 70.7 admissions per 100,000 of the general population and the New Yorkers 183.8, or 2.60 times as many, a showing even more unfavorable than that made by the foreign born in the state of New York.

Are New Yorkers as much more prone to insanity than Californians as these statistics seem to indicate? Most probably not; it seems far more likely that we have here but another instance of effects produced by a distant and difficult migration actuated by economic forces and altering the normal age distribution, percentage of urban dwellers, various conditions of existence, etc.

§ 2. Comparison of the Incidence of Insanity in Native- and Foreign-Born Elements of the Population by an Indirect Method.

Probably more than two-thirds of all cases of insanity develop on a hereditary basis. As stated in the introductory remarks, the question of the degree of prevalence of insanity in the foreign-born population derives its importance mainly from its bearing on eugenics; should immigration continue in the future as in the past, or should it increase, as it may do, then the racial composition of the state of New York will gradually change and eventually become more or less like that of the now foreign-born portion; and if this foreign-born portion shows not a seeming but a real excess in proneness to mental disease, then the future native population may be expected to show the same excess.

Some have gone so far as to accept in uncorrected form the statistics of the first generation of immigrants and to predict without qualification that the same excessive rate of insanity will prevail in their subsequent generations. It would seem to us that a matter which is of such great moment to millions of people can hardly be thus taken for granted; it would certainly seem more proper, if need be, to withhold final judgment until one based upon an actual examination of trustworthy data could be offered.

According to the thirteenth census, there were, on the date of the enumeration, in the state of New York, 3,364,516 native-born

persons of native parentage,* 2,241,837 native-born persons of foreign parentage,† and 765,411 native-born persons of mixed parentage.

From the statistics furnished by the State Hospital Commission,' it appears that during the fiscal year ending September 30, 1911, there were 5700 first admissions to the civil state hospitals, classified as follows:

Native born, of native parentage	1224
Native born, of mixed parentage	624
Native born, one parent native, other unknown	22
Native born, one parent foreign, other unknown	53
Native born, nativity of both parents unknown	218
Native born, both parents foreign	782
Total native born first admissions	2923
Nativity of patients unknown	40
Foreign born	2737

Simple calculation shows that the native born of native parentage contributed 34.6 first admissions to the state hospitals per 100,000 of their general population, while the native born of foreign parentage contributed 34.9,—practically the same proportion.‡

In other words, whatever might be said of any undue proneness towards mental disease in the foreign-born population, the first generation of their descendants shows no greater prevalence of insanity than their contemporaries of native parentage; the much-feared menace of an increased incidence of insanity in the future

* In this number are included all negroes, whether of native or foreign parentage, the great majority being probably of native parentage.

† Not including those of mixed or of unknown parentage.

‡ It should be added that here again the age distribution of the two groups considered is not the same, the difference being probably such that a correction would produce a showing in favor of the native parentage group. But, on the other hand, it is equally probable that the proportion of town dwellers is greater in the foreign parentage group, and here a correction would produce a showing in their favor. Unfortunately, data are not available for an exact correction; as the two disturbing factors are probably slight and produce errors in opposite directions it is clear that they must to some extent neutralize each other and that any remaining error can hardly be of any considerable magnitude.

generations, as resulting from immigration, is shown by these figures to be not real but imaginary.*

§ 3. The Economic Aspect.

The economic aspect, though not comparable in importance with that of race hygiene, is, nevertheless, as stated in the beginning, worthy of consideration.

Granted that the immigrant population shows no greater proneness to mental disorders than the native population, yet the fact remains that nearly half the insane and feeble-minded in institutions in the state of New York are of foreign birth. The liability of the state for the care and maintenance of any number, great or

* Since the above was written, the special report of the thirteenth census on the insane and feeble-minded in institutions, by Joseph A. Hill, has appeared.* Several pages in it are devoted to a consideration of this question of the relative frequency of certified insanity in the native-born population as classified according to parentage. Curiously enough, however, no distinction is made there as between native-born persons of foreign parentage and those of mixed parentage, these groups being throughout considered as one under the heading of "native-born of foreign or mixed parentage." One would, indeed, hardly suspect that, for the purpose in view, it would be necessary to make such a distinction; yet the facts, at least as revealed by New York State statistics, show that the native born of mixed parentage constitute a population group which differs strikingly from both the native born of native parentage and those of foreign parentage, having contributed more than double the proportion of first admissions of either of the latter groups, namely, no less than 81.5 per 100,000 of the population at large! Manifestly, it cannot be proper to add this group either to that of native or of foreign parentage, and it is merely to make this point that these statistics are referred to here; it would be out of place here to discuss at length this rather remarkable fact. It might, however, be suggested, as a possible explanation, that mixed marriages are probably more frequent among the less conservative of those who go into the American "melting pot." Often enough this freedom from undue conservatism acts as a leaven of progress and beneficial reform; but every psychiatric clinician knows also that in many cases it is but a phase of lowered inhibition which is so characteristic of neuropathic constitutions. Accordingly, we will not be accused either of too great a leaning toward conservatism or of taking a stand against the principle of the "melting pot" for venturing the opinion that it is this lowered inhibition, in so far as it underlies a certain proportion of mixed marriages, that accounts, partly, if not wholly, for the excessive frequency of certified insanity among the offspring resulting from such marriages.

small, of foreign-born insane can by no means be taken for granted as is that for the care of the native-born insane.

Here the question arises, What can serve to establish such a liability? Since the issue is purely a financial one, the answer is plain: the liability of the state for the care and maintenance of the foreign-born insane can be established only by a proportionate contribution to the wealth of the community resulting from the labors of the foreign-born population; and the special object of this section becomes to make, if possible, an estimate of that contribution.

It is now generally recognized that at least the modern migrations to the United States are governed largely by economic conditions. Accordingly, when a state or a large division of the country becomes the goal of a large popular migration it is but reasonable to assume that it affords valuable opportunities which are not to be found in the places from which the migration proceeds. Yet not all are attracted by these opportunities sufficiently to sever old ties and to deliberately impose upon themselves years of great hardship. It must require a special amount of ambition, enterprise and faith to lead one to thus leave his home in quest of greater happiness hoped for in a distant land, among strange people, in the uncertain future. These considerations, however, suggest but a promise of achievement; for the extent of its fulfilment we must turn again to the census statistics.

The states of the union may be divided into four groups according to their proportion of foreign-born population. *Group 1,* wherein each state has a foreign-born population of less than 10 per cent, comprises the states of Alabama, Arkansas, Delaware, Florida, Georgia, Indiana, Kansas, Kentucky, Louisiana, Maryland, Mississippi, Missouri, New Mexico, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia; this group as a whole has a foreign-born population of 3.4 per cent. *Group 2,* wherein each state has a foreign-born population of between 10 and 20 per cent, comprises the states of Colorado, Idaho, Iowa, Maine, Nebraska, Ohio, Oregon, Pennsylvania, South Dakota, Utah, Vermont, and Wyoming; this group as a whole has a foreign-born population of 15.8 per cent. *Group 3,* wherein each state has a foreign-born population of between 20 and 30 per cent, comprises the states of Arizona, California, Con-

necticut, Illinois, Michigan, Minnesota, Montana, Nevada, New Hampshire, New Jersey, North Dakota, Washington, and Wisconsin; this group as a whole has a foreign-born population of 23.5 per cent. *Group 4*, wherein each state has a foreign-born population of over 30 per cent, comprises the states of Massachusetts, New York, and Rhode Island; this group as a whole has a foreign-born population of 30.6 per cent.

For each of these groups of states we have calculated the annual per capita wealth production by dividing the sum of the gross values of all the agricultural, mineral, and manufactured products, as given in the census, by the total population. The figures thus obtained are, for Group 1, $216.29; Group 2, $390.09; Group 3, $405,58; and Group 4, $427.93.

Undoubtedly the very fact, among others, of peculiar age distribution of the foreign born, with the small proportion of children and the large proportion of able-bodied adults, accounts for this seemingly superior wealth-producing capacity. However this may be, it would seem clear that the cost of maintaining the foreign-born insane is but a minute fraction of the wealth increment brought to the communities by the foreign-born population; and we may say with Waldman,[1] "Those who are alarmed at the expense to which the state is put by the foreign-born insane regard only the debit side of the ledger and fail to consider the credit side." *

§ 4. Summary and Conclusions.

It is a fact that practically everywhere in this country the foreign-born population furnishes a much larger proportion of insane hospital inmates than the native population.

The main object of this study is to determine whether this fact is due to a greater inherent tendency among the foreign born to develop mental disease or to some other conditions.

* The considerations in this paper would naturally argue against a general policy of restriction of immigration; but they are not to be construed as arguing in favor of relaxing the efforts of keeping out all insane and otherwise mentally defective immigrants. On the contrary, whether insanity be relatively frequent or rare among immigrants, the welfare of this country demands that insane persons be prevented from entering and remaining in it and that the facilities for their detection and deportation be perfected and increased rather than reduced.

It is found that the difference in age distribution which exists between the native- and foreign-born parts of the population accounts largely but not wholly for the difference in the proportion of insane hospital inmates.

It is found that this difference is further, but still not wholly, accounted for by the greater proportion of town dwellers among the foreign born than among the native population.

Upon eliminating the errors resulting from these disturbing factors there remains but a slight difference between the native- and foreign-born parts of the population in the incidence of certified insanity.

It is thought that this remaining slight difference may be accounted for by the heavy stress entailed in the migration and in the subsequent process of adjustment to new conditions and more exacting standards of living, and, possibly, by other, less obvious, disturbing factors.

Incidentally, it is shown that the migration of native American masses of population from the eastern to the western coast has produced a similar effect in creating a seeming increase in the incidence of certified insanity; natives of the state of New York who have emigrated to California have contributed proportionately 2.60 times as many admissions to the state hospitals there as the native Californians, a showing even more unfavorable than that made by the foreign-born population in the state of New York.

Owing to the practical impossibility of eliminating all sources of error in a direct comparison of the insanity rates in the native- and foreign-born parts of the population, an attempt is made to make the comparison by an indirect method.

Insanity being, for the most part, transmissible by heredity, any real difference in its incidence which may exist between the native and foreign-born parts of the population should be as patent in the offspring as in the parents; in other words, it should be as evident between native-born persons of native parentage and native-born persons of foreign parentage as it is between the native and foreign born themselves.

Calculation shows that in the state of New York in the fiscal year ending September 30, 1911, the native born of native parentage contributed 34.6 first admissions to the state hospitals per

100,000 of their general population, while the native born of foreign parentage contributed 34.9,—practically the same proportion.

Turning to a consideration of the financial aspect of the problem, it is assumed that the liability of the state for the care and maintenance of the foreign-born insane can be established only by a proportionate contribution to the wealth of the community resulting from the labors of the foreign-born population.

The states of the union, divided into four groups according to their proportion of foreign-born population, show that the annual per capita wealth production is in close correlation with percentage of foreign-born population, as follows:

Groups.	Foreign-born population.	Annual per capita wealth production.
1	3.4%	$216.29
2	15.8%	390.09
3	23.5%	405.58
4	30.6%	427.93

The cost of maintaining the foreign-born insane is but a minute fraction of the wealth increment brought to the communities by the foreign-born population.

The following conclusions are drawn:

There is no evidence to show that there is a greater proneness toward mental disease in the foreign-born than in the native population.

The much-feared menace of an increased incidence of insanity in the future generations, as resulting from immigration, is not real, but imaginary.

"Those who are alarmed at the expense to which the state is put by the foreign-born insane regard only the debit side of the ledger and fail to consider the credit side."[1]

REFERENCES TO LITERATURE.

1. John Koren: *Insane and Feeble-Minded in Hospitals and Institutions.* Special Report, Bureau of the Census, Washington, 1906.
2. Thomas W. Salmon: Chapter entitled *Immigration and the Mixture of Races in Relation to the Mental Health of the Nation,* in *Nervous and Mental Diseases,* edited by William A. White and Smith Ely Jelliffe, Philadelphia, 1913.

3. Horatio M. Pollock: *A Statistical Study of the Foreign-Born Insane in the New York State Hospitals.* New York State Hospital Bulletin, Special Immigration Number, April, 1912.
4. *Twenty-third Annual Report of the State Commission in Lunacy.* Albany, N. Y., 1912.
5. *Seventh Biennial Report of the State Commission in Lunacy.* Sacramento, Cal., 1910.
6. Joseph A. Hill: *Insane and Feeble-Minded in Institutions.* Special Report of the U. S. Census. Washington, 1914.
7. Morris D. Waldman: *The Alien as a Public Charge, with Particular Reference to the Insane.* Paper read before the Thirteenth New York State Conference on Charities. Published in the Annual Report of the State Board of Charities for the Year 1912, Vol. 1, Albany, N. Y., 1913.

OPTIC NEURITIS AND THE COLOR FIELDS IN THE DIAGNOSIS OF SYPHILIS, NEURASTHENIA, HYPERTHYROIDISM, DEMENTIA PRÆCOX, MANIC-DEPRESSIVE INSANITY, AND THIRD GENERATION SYPHILIS.*

By HAYWARD G. THOMAS, M. D., Oakland, California.
Professor of Ophthalmology, Oakland, Cal., College of Medicine, Visiting Oculist, Alameda County Hospital.

In presenting this paper I am mindful that it is taking a bold plunge. I am aware of the fact that it will be difficult for us to readjust ourselves to a new classification of the optic disc, for the accepted ideas of the appearance of the normal and abnormal optic discs will receive something of a shock.

The optic nerve is the one exposed nerve in the body that we can see and study directly; and, as it is so closely identified with the nervous system that slight changes can be noted in it, it behooves us to give it more attention than it has hitherto received. In fact, the phases of which I will speak have been almost entirely neglected. If we consult the works on ophthalmology and ophthalmoscopy, we will notice that only the more marked forms of neuritis are pictured and described, and many illustrations are given as examples of normal discs which I claim are distinctly abnormal. The minor and lesser degrees of neuritis are entirely overlooked and classed as normal. Because there was no other class to put them in, nerves which showed no changes in the size and proportion of the vessels, no swelling above the borders, and which obtained practically normal vision with lenses, were classed as normal; and for years, though noting their appearance and putting a question mark on the word normal, I have so classed them. The first point to get clear in our mind is just what the normal disc is, and, secondly, what an optic neuritis is, of the mild, non-inflammatory character to which I refer in this paper.

The normal disc or papilla has a well-marked border, round or oval, and with or without pigment from the choroid. The body

* Preliminary report read before the Alameda County Medical Association, December, 1912. Submitted for publication August, 1914.

is pink or rose with the "shot-silk" sheen, and with a central or nearly central excavation or depression, the physiological excavation or cup, or porus opticus, abbreviated for convenience to P. O. This normally may be from one-fourth to one-third of the diameter of the disc and shows the vessels dipping down into its depth along one edge, and in the majority of cases, in the depth of the excavation, cup, or P. O., are minute dark spots, the markings of the lamina cribrosa. On the nasal side the nerve fibers may be slightly above the retinal level as they emerge and spread out to form the retina. There are varied forms of the normal disc in the placing of the cup, or P. O., and in the shape of the latter, but I believe that every disc without a P. O. or with a faintly marked one, is abnormal and should be so considered. It is evidence of a neuritis, which, progressing, causes the P. O. to disappear, the color of the disc to change from its rose pink to a dull brick red, or, as is more often the case, to a lighter hue, giving it a doughy appearance.

In the more active forms we get the fiery red color, with slight swelling and blurring of the borders, or the choked disc, or the large button-like papillitis, with or without hemorrhages.

In some of the older, chronic, severe cases, we find a level disc with the edges clouded and obscured, the color of the disc blending in with that of a blurred retina. In such cases we have a well-marked cerebral syphilis.

Here are presented seven cuts, diagrammatic only, representing various stages in optic neuritis.

No. 1 is one illustration of a normal porus opticus. This may be round or oval or oblong, but this is representative of size.

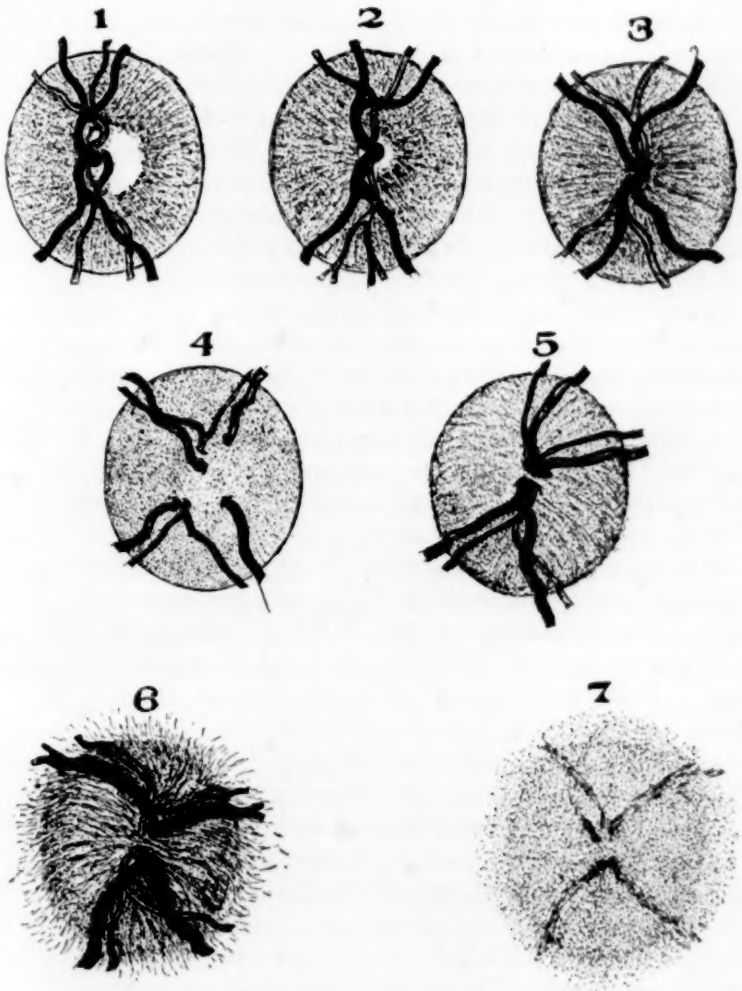
No. 2 is an illustration of an already partly filled excavation, pathological.

No. 3 is filled up and flat, color may be pale yellowish in cast, or a deeper red than normal. In either case the appearance suggests a doughy consistency, the pale yellow suggesting the appearance of "raised" dough ready for the oven; no sheen to it. The red forms are also dull, ranging from light brick to the same shade as the retina.

No. 4 is also filled. It is of the variety where the vessels have divided before leaving the cup. It is not physiological to have no cup; this variety has the appearance of sticks sticking in the mud, because of a greater amount of material deposited.

No. 5 shows a slight elevation above level of the retina all around; no P. O.; vessels stand out at meeting point.

No. 6 shows a distinct swelling of the disc, a papillitis of the books.



No. 7 shows a disc with blurred edges, no P. O., and general hazy outline; a cloudy œdema of the papilla.

These are the ordinary types and Nos. 2, 3, 4 are classed as normal. All conditions without actual swelling are usually re-

ferred to as "auto-intoxication," nephritis, gastro-intestinal complications, etc. I have many of all these types and have noticed them changing from 1 to 5. Under treatment, I have seen the reversal through the types, from 5 to 1.

These changes were also simply accidentally noticed at first, as we were not looking for them and had no theories on the subject. It was noticed in certain cases that there was no P. O., and some of the discs were of the fiery red character. After some months' treatment the patients were referred back for re-examination, and in one case after another it was noticed that an excavation had appeared. This led to a more careful watching of all cases, arranging for periodical eye examination. This takes this question out of the realm of theory and into that of fact.

As to color fields, I can find nothing in any of the text-books, except Cushing on brain tumor, and on diseases of the hypophysis, where there is more than a reference to the fact that there are color fields, and only the contracted fields in atrophy of the optic nerve are given. One writer, Dr. Breuner, of Cleveland, in the *Ophthalmic Record,* of September, 1911, gave the complete contracted color fields in a case of syphilis with homonymous hemianopsia.

Now a few words as to the taking of the color fields:

The perimeter used should be of the self-registering type so that the patient cannot see the hand move the colors, though the self-registering portion is only useful as a guide to the meridians. Daylight is necessary and the room should be so arranged that its light coming from behind the patient brightly illuminates the color.

Every precaution should be observed to avoid errors and especial care should be taken to prevent retinal fatigue, frequent rest intervals being taken. In meridians where there is a marked contracture the tests are repeated several times, the operator switching back to these meridians, not permitting the patient to become aware of the duplication of the tests. An assistant records the degrees as they are called off by the operator, as the patient recognizes the color. When all twelve meridians are finished for the five colors, the recorded figures are read off to an assistant, who marks the chart and draws the colors in.

The characteristic color fields which will be discussed later showed sector-like contractures with interlacing of the boundaries of the various color fields.

The investigation of these anomalies of discs and color fields owes its origin to some cases of suspected brain tumor. These showed discs presenting the characteristic neuritis described in Nos. 6 and 7, and their color fields presented the characteristic contracture and interlacing. They were examined exhaustively by internists and neurologists, X-rayed, etc., but all proved to be cerebrospinal syphilis.

In the enumeration of various agents that contribute to the contraction and interlacing of color fields, we find brain tumor, brain abscess, abscess of the accessory sinuses, especially the sphenoid, nephritis, diabetes, various toxic agents, lead, tobacco, etc. Syphilis is the greatest of them all.

This experience led to the examination of other patients suffering from chronic headaches, nervous symptoms, neurasthenia, etc., and all showed the same marked contraction and interlacing of the color fields, the same type of discs, *i. e.*, without P. O.'s, though few had swelling, or marked changes in the blood vessels.

The first color fields were taken early in 1911, and during that year I took not over a dozen, but in all the characteristic cases cerebrospinal syphilis was proven and all were promptly relieved by vigorous anti-syphilitic treatment. Dr. Jau Don Ball, the neurologist, became interested in the color fields and had a number of neurasthenics examined and these, too, fell under the same category, namely, syphilis. It then became a routine measure to examine all patients who had a mild neuritis, and who came with a history of headaches, nervousness, inability to use the eyes for any length of time, etc.

These cases from which we have drawn these conclusions are of a large class, in which such a thing as syphilis was never before suspected. They range from very early childhood to old age. Neurasthenia exists in children as well as in older people.

The question will be asked as to the proof that these cases are syphilitic. At first, the Wassermann or Noguchi tests were made to prove the diagnosis, but in almost half the number a negative report was returned, though from a clinical point of view the patients were very positively syphilitic. By clinically positive, I mean when the patients would present tender shins and sternums, concave scapulæ, history of crises, Romberg's sign, abnormal reflexes, a family history showing still-born children and mis-

carriages, etc., a history of chronic headaches, nocturnal bone pains, etc., and present a mild neuritis of the optic nerve and the characteristic contracture and interlacing of the color fields.

I do not wish to underrate the value of a positive Wassermann or Noguchi test, but to emphasize most positively the absolute worthlessness of a negative report. When one examines a large number of cases, take, for instance, a family of heredo-syphilitics, now every member of the family must have syphilis, all have the same neuritis, the scaphoid scapulæ, deranged reflexes, etc., all will show in a greater or lesser degree the same lack of stamina, the lowered resistance. Half of these may show positive Wassermann, half negative.

If we can clinically recognize syphilis, and I claim now we surely can, the value of a positive Wassermann is simply corroboration, and a negative report is valueless. It is a prevailing idea among practitioners that a negative report settles the question, and the laity is assured that it is a fact just the same as the great majority of the laity are assured that one dose of salvarsan is a cure. Again after treatment a negative Wassermann convinces a great many that a cure has been accomplished. Who knows now when syphilis has been cured? And how can it be proven? From my experience in the last two years I believe we are some years yet from the knowledge.

As a class, the majority of these patients are of varying degrees of neurasthenia, from the mild type of simple ocular neurasthenia to the graver general type and on up to general paresis. A very large number are of the class who are never really sick and never really well and who apologize for hinting that they do not have the sense of well-being and vim that a really well person ought to have.

The next class are really neurasthenic to a degree that keeps them ailing most of the time, sometimes with one symptom, then with another. A number have been under treatment for over twenty years, always neurasthenic, but diagnosed with something new by every physician whom they have consulted—naturally enough with their varying symptoms. I have found quite a large number who have undergone various and sundry abdominal operations, unnecessarily and with no beneficial results, because what was sought for was not found, the cause being in all these cases

syphilitic crises. These cases are not few and the operations many.

One had an operation for gall stones, after suffering with pain in that region for years, and there were no gall stones; later the appendix was removed, and still there was trouble. The onset of a severe optic neuritis brought about the diagnosis. Another had four abdominal operations and is growing steadily worse. Another reports seven and another five, etc. I am not in the least trying to throw any discredit on abdominal surgery, for there is need of it aplenty, but I do speak for a better method of diagnosis rather than operation without adequate examination.

In reference to this subject, the inflammatory conditions of syphilis are very little understood. Take some of these crises, for instance: given the intense pains, the leucocytosis, the temperature, and we have the ideal setting for surgical procedure, yet it happens not infrequently that without further evidence, operations are performed, to find no pus at the seat of pain, or anywhere else. Immediately the temperature drops, the leucocytosis and pain disappear, and only an exploratory incision remains. This has recently been the case in a known syphilitic, who had all the classic symptoms of appendicitis. The crisis came on, with the leucocytosis, fever, etc., and though protest was made against operation, an incision was made to find no appendicitis; wound sewed up, and the symptoms all disappeared. Modesty forbids me to mention the name of the man who has opened mastoids under similar conditions.

The study of the optic nerve opens wide a window through which we can see a new army of heredo-syphilitics, who have hitherto been overlooked, and at this point I desire to say that by heredo-syphilis I mean syphilis of the second, third, and fourth generations; possibly more. I am well aware that syphilis beyond the second generation is not credited, but there is indisputable proof for its existence in the third and fourth. Marshall, in his excellent and exhaustive new work on syphilology and venereal diseases, gives a few pages to its consideration, but there is not much to guide in the discovery of the cases. He quotes Hutchinson as not believing in third generation syphilis. A study of the eye and of the nervous system will convince any clinician of the existence of third generation syphilis and more.

Graves[1] of St. Louis has discovered another syndrome which also proves the case—the scaphoid scapula. There he shows syphilis for a number of generations, and my work with the optic nerve checks up exactly with his with the scaphoid scapula, as we have observed these scapulæ in our clinics at the Oakland College of Medicine. Families with optic neuritis have scaphoid scapulæ along with other evidences of syphilis of the nervous system.

I have in years past often asked, "In what form does syphilis of the third generation show itself?" only to be answered by clinicians, "I do not know."

The meager details in regard to third generation syphilis might well dismay the investigator, but from the revelations of the last year which have shown up so many families with undoubted second generation syphilis in the parents, and the children of these parents showing the optic neuritis, the scaphoid scapulæ and the various nervous phenomena which accompany this condition, it will be at once seen that there is an immense army of third and more generations. A new classification of disease as to etiology will be needed. An extremely small percentage have Hutchinson teeth, rhagades, and keratitis interstitialis, the vast majority showing the various dystrophies, as nervous phenomena and disorders of nutrition and development due to defective innervation and circulation; for example, the saber shins, scaphoid scapulæ, disease of the circulatory system, of the digestive tract, of the respiratory tract, enlarged and diseased tonsils and adenoids. Many of these patients we find with ocular neurasthenia and as they come to the clinic we ask for all members of the family and in them we find the same stigmata. Inquiring into the family history, we find a chapter of miscarriages, still-born children, or infants dying soon after birth, and of those living we find various nervous troubles gradually developing. In fact, we find the majority of these heredo-syphilitics in infancy suffering from marasmus, striving hard to live; as little children they have more weaknesses than they ought. Marshall quotes Parrot and Kassowitz as saying that nearly all children affected with heredo-syphilis become rachitic. Fournier thinks Parrot goes too far, and Gaucher recently gave his opinion that "heredo-syphilis alone produces rickets."

[1] W. W. Graves, St. Louis, Scaphoid Scapula, Med. Record, May 21, 1910.

As the children grow up we notice that they are not of the most robust—they would check up physically below par—lots of healthy-looking youngsters among them, but put them to tests and we find these are the ones that tire out easily; the endurance is not there.

Marshall[2] gives the following requirements for evidences of syphilis of the third generation:

1. Presence of acquired syphilis in grand parent (first generation).
2. Presence of undoubted syphilis in children of the second generation.
3. Presence of syphilis in children of the third generation.
4. Absence of acquired syphilis in either parent.
5. Absence of reinfection of the heredo-syphilitic mother.
6. Absence of the intervention of another syphilitic genitor.
7. Absence of acquired syphilis in the child.

Marshall quotes the latest statistics on the subject, quoting Fournier who has collected a large number of cases which fulfil the conditions.

Now when one speaks of the statistical frequency of syphilis he is instantly open to the attack that everything he sees is syphilis. I will not discuss that phase of the question now or at any other time, but quote Marshall and Fournier on the question.

Marshall:

The reason for so much heredo-syphilis is because of insufficient treatment, and it is difficult to conceive that many families in "civilized countries" can altogether escape some trace of the taint.

The reason why cases of transmission to the third generation are not frequently recorded is that the class of medical men who have the most opportunity for observing such cases—the family physicians—are not as a rule syphilologists.

In the introduction to Fournier's second edition, in an address to the Advisory Board for Army and Medical Services, on the question of "The Treatment of Venereal Disease and Scabies in the Army," in 1904, is the following:

Fournier:

Malcolm Morris in the introduction to the second edition is quoted: "I have had 24 years teaching experience and I venture to say that there are few men going away from the hospital who know anything of the subject. And, therefore, I think the strongest recommendation to this committee is that there should be centers where men who are going to treat this disease should be taught. And the only way would be by establishing a hospital and

[2] Marshall, p. 339.

a school for this instruction in the big centers, to which civilian experts should be attracted as teachers. It is snubbed in every medical school in London and in the country. It is snubbed as a subject; it is not taught except as more or less incidentally and in an indifferent manner, just when it happens to come into different departments, such as the eye or throat. But as a whole it is not taught in the manner it should be to stamp out the national scourge. The only way that could be done would be by establishing centers where it is not only taught but studied."

Since this the Royal Commission in Venereal Diseases has been formed, and their 26th meeting has recently been held in London. This commission has gone into the investigation of the wide-spread ravages of syphilis and collecting all the data possible of the diseases produced by syphilis. The statistics quoted by the various men to date are startling.

I make the assertion which will hardly be disproven: *No case of syphilis has ever been really cured.* I know well what protest this will bring forth, but not from syphilologists. To be sure, the faithful treatment for two or three years with potassium iodide and mercury was seriously thought to be effective. It was to all external appearances, but I have in twenty-five years seen an immense number of these *cured* (?) men, and I have also seen their wives and children. I have known many of these men to die suddenly at middle age of syphilis of the brain, or of heart lesion, or suicide, or what not.

They did not always go into the nervous states—tabes, or paresis, etc. Now these men have transmitted the disease to their offspring, and I personally know men who had initial syphilis who were treated by average high grade medical men, who gave the regulation treatment of potassium iodide and mercury, all they could stand for three years, pronounced them well and permitted them to marry.

I have watched their wives and children and found optic neuritis, choroiditis, and retinitis, and all evidences of syphilis, and in the "cured" father evidences of advanced syphilis of the nervous system. What syphilologists of to-day will assert that a real cure was ever attained by the old methods? If that be so, and I assert that it is, it will account to-day for the world being full of heredo-syphilitics. There is no escape from this conclusion and in any large practice or clinic the truth of these assertions can be

readily demonstrated, and the result will be as appalling to the investigator as it has been to the writer.

Those that come to the oculist come primarily because of defective vision, or headaches, with the latter predominating, or secondarily, they come because of inability to use the eyes for any length of time, perhaps only a few minutes at a time, with or without lenses. These are the cases which have tried the patience of the oculists for years. The principal relief that they obtain is to have a cycloplegic used and for a short time from the enforced rest given the ciliary muscle, they have immunity from the eye strain, only to have it return with the restored accommodation. Then follow the lacrimation and photophobia.

The majority of these patients run a very chronic course with exacerbations and remissions, but each exacerbation is a little more severe. Then the other symptoms of general neurasthenia appear and we soon have a confirmed neurasthenic to deal with. The accompanying symptoms usually are: easily induced fatigue, nervousness, perhaps insomnia, memory not as keen, often failing, increasing peevishness of temper. In cases of more severity and longer duration we find tender shins and sternums, Romberg's sign, and an exaggeration or alteration of all reflexes, elbow, wrist, knee, tendo achilles, plantar; various analgesias or anæsthesias; variations in the thermal sense, dizziness, growing deafness and tinnitus, occasionally labyrinthine deafness.

About half of these cases give a positive Wassermann, but many of those most positive, clinically, give a negative result.

We have observed these "neuroses" practically from infancy to old age, and in all gradations from light neurasthenia with hysteria, the so-called anxiety neurosis, the "tension neurosis" to the exaggerated helpless type of neurasthenics, the early tabetics, the aborted tabetics, dementia præcox, the maniacal depressive types, the hypomania cases, and we find the symptoms identical, differing only in degree. We find cases passing from neurasthenia to dementia præcox or hypo-mania. We find the same changes in the optic nerve differing only in degree with the variety of the cases, from light neurasthenia to the general paretic or maniacal depressive.

The color fields differ in contraction and interlacing only with the degree of the severity of the case, so that we cannot consider neurasthenia in any way a functional or psycho-neurosis.

The visible changes in the optic nerve are distinctly organic, not functional or imaginary, and are evidences of slight or serious changes in the brain or cord as the case may be. Consider for a moment in what the etiology of neurasthenia has consisted, classed as a functional or psycho-neurosis; nothing could be traced to anything tangible such as anatomy, physiology, or pathology; simply a nebulous affair; "psychoses," fear; nervousness, that bugbear of a word; nervousness must be born of something tangible, we do not grasp it out of the air; to continue: "business reverses." If everyone, big and little, who has had business reverses had neurasthenia, there would be few left free. Millions have been jostled, bruised, shaken, and scared in accidents of all kinds and some few have developed neurasthenia. Why? Let us forget the seventeenth century "vapors" and look to something clinically, anatomically, and pathologically positive as a cause for such a grave malady.

Marshall quotes such another equally weak reason ("exposure to cold") as being "the last refuge of a destitute etiology."

Another class of cases that we found constantly cropping up throughout our cases of heredo-syphilis was that of goiter. Quite a number of severe cases of hyperthyroidism led us to make especial examinations of such cases as to color fields, optic discs and nervous phenomena, and these all tallied up directly with the neurasthenias; the same color fields, the same variety of discs and the same variation of reflexes; in other words, similar in all respects; syphilis, with the added symptom of hyperthyroidism. This led to the routine examination of all cases and enlarged thyroid appeared in over 50 per cent.

In regard to the etiology of hyperthyroidism, there exists as much vagueness as in that of neurasthenia. In fact, there is only conjecture and there is no need for recapitulation on my part. Syphilis is hinted at as a remote or doubtful possibility.

Miss Helen Chambers reported recently in the London *Lancet*, July 19, 1913 (a digest of whose article appeared recently in the *Interstate Journal* and in the *A. M. A. Journal*) that as a result of the examination of five hundred cases of goiter, she found the

inflammatory changes to be similar to those produced in tissues by infection with treponema pallidum. This comes perilously near to telling the truth.

Oppenheim quotes of hyperthyroidism:

> Dejerine quotes one case in which Basedow's disease was transmitted through four generations, and Brown found it in four brothers and sisters. But, as a rule, there is some other disease in the family and I have often found a predisposition for the vascular neuroses. The neuropathic tendency has often shown itself by signs of nervousness and hysteria, long before the onset of the disease.
>
> In such persons with such a predisposition exophthalmic goiter may develop without any other "distinct cause." It is still doubtful whether syphilis should be regarded as a cause.

I will record one case whose color field appears, in which will be seen an intense case of hyperthyroidism, and its rapid improvement under antisyphilitic treatment. The question of goiter alone will constitute a large chapter of which the future will take care.

It has been noted by certain German observers that cases of dementia præcox all had enlarged thyroids. Dr. Ball and I made a visit to the State Hospital for the Insane at Agnews, Cal., and examined thirty-five there. In all we found the typical optic discs, only showing more degenerative changes in the more severe cases, naturally. I took some color fields of the more intelligent and tractable, and found an exact reproduction of the fields of the neurasthenics. Dr. Ball noted the enlarged thyroid in all, scaphoid scapulæ in 85 per cent, and found recent syphilis in the others.

Dr. Ball will report two cases in his private practice, in which one who suffered for ten years with dementia præcox following neurasthenia is now cured and living with his family.

Another, a young lady whom I have known since birth and whose optic discs were as white as snow, the intense anæmic variety, is now fast recovering, and the discs are showing a pink tinge. I have examined cases in another private sanitarium and found the same discs as in these. Some nerves were intensely white, some half white, etc., as Tyson and Clark have so accurately described (*Archives of Ophthalmology*, May, 1912).

Tyson and Clark give the results of their study of 115 cases of dementia præcox. One hundred and nine cases were examined with the ophthalmoscope and the authors believe that they have found definite eye changes and symptoms which are distinctive of

this "psychosis" and which establish an eye syndrome. They divide the fundus changes into three groups, as follows:

1. Congestion of the discs; hyperemia and oedema; dilated, dark colored veins; slightly contracted arteries and blurring of the edges of the discs, all varying in degree. These changes constitute a low grade of perineuritis of the optic nerve.

2. Congestion of the nasal side, with temporal pallor of the discs, dilated veins and contracted arteries.

3. Pallor of discs, dilated veins and contracted arteries. These changes constitute anæmia and a partial atrophy of the optic nerve. The more marked changes in the eye-syndrome were found in the more rapidly deteriorating types of dementia præcox.

The authors state that there is strong evidence that a potent toxin is responsible for the disc changes and believe the toxin to be primarily a vascular poison, and that its most probable source is in the auto-intoxication from the intestines or from the liver.

Among the cases which we have investigated are the atrophic rhinitis, ozœna, and sinusitis cases. The great majority of these cases have positive Wassermann findings, and all have the same discs, the same type of color fields, the same variety of abnormal reflexes, and have responded in the same prompt manner to rigid anti-syphilitic treatment.

Nearly all the cases of children with diseased tonsils and adenoids brought to the clinic for operation have the other stigmata of syphilis—the optic neuritis, the scaphoid scapulæ, the mild neurasthenia, the various dystrophies, disorders of dentition, digestion, etc., and especially the family history which can be directly traced to heredo-syphilis.

Arteriosclerosis is fairly generally believed now to be of syphilitic origin, especially the arteriosclerosis not of old age. The intestinal troubles which have been credited with being the seat of this trouble are, I believe, due more to syphilis, because the vast majority of our patients give a vague history of "stomach trouble," which in detail they describe as constipation, pain, indigestion, "gas in the bowels," etc.

All grouped together in the language of the patient as "stomach trouble," these troubles clear up under anti-syphilitic treatment.

Glaucoma I have long thought to be syphilitic in origin, the various methods for relief being of but temporary benefit, as I have stated in a previous article on "The Sub-Conjunctival In-

jections of Sodium Citrate for the Relief of Glaucoma," a local, if not a general, arteriosclerosis being responsible for the lighting up of the condition. Glaucoma is only a part of a general condition, as we frequently find associated a nephritis, an apoplexy, or an aneurism of some large vessel.

In reading that most excellent book, Marshall, "Syphilology and Venereal Diseases," the best and most up-to-date compilation in the English language on the subject, in my opinion, I am impressed by what he has to say on the subject: "Heredo-Syphilis," "Para-Syphilis," "Heredo-Para-Syphilis." "The term 'para-syphilis,' appears to be subject to various interpretations and includes the remote sequelæ of syphilis, such as tabes, dystrophic effects and predisposition to other diseases." Again, of lues heredetaria tarda: "It is doubtful if these cases often occur without any signs of heredo-syphilis in infancy, and they are mostly explained by the earlier symptoms having been either unrecognized or unrecorded." "Late heredo-syphilis is probably due to a great extent to insufficient treatment of infantile syphilis." "Late heredo-syphilis may appear between the third and the twenty-eighth years, the greater frequency being in the twelfth."

This is the pith of the matter; we may multiply names, but they convey only confusion. Syphilis is the only name of the disease, and when these cases are treated they are treated for syphilis.

Para-syphilis means one thing to one man and another to somebody else.

"Lues heredetaria tarda" means nothing more than that the recognition of the disease is late. Syphilis was present all the time, but it was not recognized. That is all.

Naturally the investigation is of such recent date that we cannot give a quantity of accurate statistics as to the number and proportion of cases to the whole number seen. The rapid growth of the neurological clinic at the Oakland College of Medicine, due to the investigation of the optic nerve, is illuminating. There we find patients from infancy to old age. Neurasthenia is not confined to the business or financial world, or to those having worries and shock, or brain work. We find it among the poor and careless. We find whole families with the stigmata of syphilis and there we find the evidences of the third and more generations.

We have the three generations under treatment at one time, and while it is quite true that many who have syphilis of the third generation are also combined second and third, there are many indisputably genuine third generation cases without the possibility of the intervening genitor in the second. We have cases where the history of syphilis comes from both sides of the family and the children are at least third if not fourth generation. These children are mainly idiotic. In a future article we will have gathered tables of cases, showing histories of families and groups with the stigmata, etc., which we believe will have much to interest.

In all we have seen in round numbers over a thousand cases, private and those at the clinic. There is no escape from the diagnosis of these cases, as the general physical condition, the optic neuritis, the scaphoid scapulæ, the deranged reflexes, the family histories, the typical color fields and the *therapeutic results* all bear out the diagnosis.

I have taken over 250 color fields, mostly of private patients and some few at the clinic and of all grades of cases; some of first generation, many of the second and many of the third. In some of these cases I have all three generations under treatment, and where all doubt of "intervening" infection is eliminated.

Another syndrome I have noticed that also gives the cue immediately—the state of the conjunctival vessels. Dr. W. W. Graves[1] in his excellent articles on "Syphilis and Scaphoid Scapulæ" mentions this and quotes the experience of Dr. Luedde with the corneal microscope in finding the dilatations and aneurisms in the conjunctival arteries.

I have long ago noticed these vessels and in 90 per cent it is not necessary to have the corneal microscope. One can judge of the appearance to the naked eye.

All that have optic neuritis have prominent and tortuous conjunctival arteries. If you will carefully note these cases with tortuous arteries, examine further and you will find other stigmata to correspond. This you will find in quite young children also. Many cases I have treated as a conjunctivitis, but it is not that. The patient has more or less photophobia, possibly at times lacrimation; all symptoms slight, but persistent.

[1] W. W. Graves, "Clinical Recognition of Syphilitics," Med. Review, Aug. 24, 1912.

The injection and tortuosity of the conjunctival vessels is as positive and constant a sign as the optic neuritis, the scaphoid scapulæ or any of the other signs.

If the clinician who observes this sign will make an ophthalmoscopic examination, take a complete family history, and make a thorough physical examination, he will believe then that there is more heredo-syphilis than he ever dreamed of before.

The one satisfying thing is the ease with which one can recognize it if he only looks.

In reference to nephritis, this is ranked as a separate disease, and a host of other symptoms are credited to the kidneys as being the prime offenders. Dr. Martin Fischer, in his works on "Oedema," and "Nephritis," has plainly shown nephritis to be secondary to a vascular disease.

Osler, in his "Practice of Medicine," 1904, says of chronic interstitial nephritis:

> Sclerosis of the kidney is met with (a) as a sequence of the large white kidney, forming the so-called pale granular or secondary contracted kidney; (b) as an independent primary affection; (c) as a sequence of arteriosclerosis.
>
> *Etiology.*—The primary forms are chronic from the outset, and are a slow, creeping degeneration of the kidney substances, in many respects only an anticipation of the gradual changes which take place in the organ in extreme old age. In many cases no satisfactory cause can be assigned. In others there are hereditary influences, as in the remarkable family studied by Dickinson, in which a pronounced tendency to chronic Bright's disease occurred in four generations. Families *in which the arteries tend to degenerate early are more prone to interstitial nephritis.* Syphilis is held by some to be a cause. . . . . By far the most common form in this country is secondary to arteriosclerosis.

The symptom complex called nephritis is merely a symptom of a disease and not a disease. So I have found in this large list of cases as they came under observation. Nearly all cases past thirty showed casts in the urine, granular, hyaline, and at times albumen. In some cases the urine was so loaded with casts that according to all observations and past experience and teaching, we were sure we were dealing with cases far advanced in interstitial nephritis and that the patients would die in a year or two at the outside. In several the blood pressure was 225 to 260 mmHg ("Tycos" and Faught).

Anti-syphilitic treatment has caused a decrease in the blood pressure, and the urine has cleared up absolutely.

I will report one case of especial interest, as he was referred to me as a case of nephritis:

Mr. E. L. came to my office January 4, 1912, from an oculist in another part of the country, with a diagnosis of interstitial nephritis, with optic neuritis and extensive hemorrhages in right retina. The urinary findings were: granular and hyaline casts, slight amount of albumen.

I referred the case to Dr. W. S. Kuder for physical examination. Age, 40 years, married; mother living; father died at 52 of apoplexy after five years of "mental trouble"; father had been a "rounder," treading the primrose path assiduously; one brother and one sister died at birth; one sister living and well, the eldest.

Examination.—Three weeks ago the right eye suddenly blurred; hearing defective; memory poor; has had some urgency of urination for a few weeks; symptom cleared up itself without treatment; no numbness; no tingling or formication; no vertigo. About once a month he had occipital headaches.

Pronounced Romberg; absence of reflexes in right upper extremities except gordon; pronounced gordon in both uppers; diminished reflexes in left upper; decided paraesthesias both uppers—slow and variable; abdominal reflexes present; left achilles jerk diminished; right achilles jerk exaggerated; no plantar reflex; pronounced ankle clonus, both sides. Tender sternum and tibiæ; marked enlargement of thyroid.

The patient had a responsible clerical position, and performed his duties, but he was "slowed down"; used to come home at night physically and mentally exhausted. The diagnosis of syphilis was made and he was at once put on iodipin, which he took by gluteal injections for three months. Following this a rest of two weeks, then mercurial inunctions were used, then iodipin for two months, then a rest, then iodipin again 7 cc. tri-weekly.

All casts, all cellular elements have disappeared from the urine. The hemorrhages have disappeared from the retina. All denseness and sluggishness have disappeared. He now comes home at night not exhausted, but feeling absolutely "fit." I remarked that he looked five years younger. He retorted, "I'll go you better. I *feel ten years younger.*" This man would have died as a nephritic under the nephritic regime, and is as typical a case of interstitial nephritis as one would wish.

My opportunity for observing cancer is necessarily limited, but a significant thing in the taking of histories appeared which has impressed us lately. We find cancer in a large proportion of these families, and every case of cancer I have known of in my practice in the last two years has been in a syphilitic (by this I do not suspect for a moment that syphilis and cancer have anything in

common, but the prevalence of cancer in syphilitic families might make us think that cancer developed more easily in a syphilitic than a non-syphilitic).

I do not treat these cases myself, but send them to an internist, genito-urinary specialist, or neurologist, as the case may be.

I have some right and some reason to an opinion on treatment.

Words fail in trying to express an opinion on the present day, "at large" treatment of syphilis. Generally, patients get a few months of protoiodide of mercury pills, alternating with potassium iodide. A smaller proportion rush to salvarsan and that settles them in their physician's mind and theirs after about two doses.

My observation would tell me that of all the cases treated, those who show the most satisfactory results are treated with iodipin, then a rest, then mercury, then arsenic. The greater variety of ways arsenic and mercury are given, the more permanent and better are the results.

Some rely on mercury injections almost altogether. One case under that treatment: Mercury injections for over a year, and dismissed for a good rest went promptly bad; Wassermann plus 3; loss of flesh, pains all over the body; cough; in fact a most wretched condition. A change of treatment to iodipin made a prompt improvement; and this, followed by three injections of salvarsan, put this man thoroughly on his feet, though not considered by any means cured yet.

During the latter part of the year this patient was on mercurial treatment his wife became pregnant. This worried him dreadfully, but his physician, a G. U. specialist, assured him that his baby would be born free from any possible taint, as he, the father, was on such active anti-syphilitic treatment. The baby was born and promptly showed evidences of hereditary trouble; fearfully nervous all the time, sleeping and waking; peevish, irritable, liable to sudden gusts of temper, so that even his father said, "Why, that boy acts nutty at times." He had optic neuritis of a marked character, scaphoid scapulæ, acutely exaggerted reflexes, exceedingly anæmic. Anti-syphilitic treatment has changed all this and the boy is now quiet mannered, does not break into gusts of rage, and is a changed being. He is not an angel, but he certainly was a little devil before treatment.

The splendid article in The American Magazine for October, 1913, by Arnold L. Gesell, shows an intensely interesting study in heredity, and if he had headed the article *Syphilis* it would have been complete. Any community will show many examples of heredo-syphilis, the extraordinary prevalence of which is due to non-recognition and grossly insufficient treatment.

SUMMARY.

1. From our experience in the last two years, we will say that syphilis, especially hereditary syphilis, is *infinitely* more common than any authorities have admitted or dreamed.

2. That the clinical evidences show the stigmata in the third, fourth, and even more generations.

3. That neurasthenia, the most widespread and common of nervous disorders, is absolutely caused by syphilis, and that it is not a psychoneurosis, but a distinct physical disease of the brain and cord. The psychoneurosis element is entirely secondary to and caused by syphilis.

4. That dementia præcox, manic-depressive insanity, general paresis are only different grades of the disease. Insanity is cerebrospinal syphilis of different degrees, ranging from irritation, mild inflammation to actual degeneration of tissue.

5. Hyperthyroidism, hypothyroidism, interstitial nephritis (with but possibly a small percentage of exceptions), and chronic sinusitis, are but symptoms that appear in syphilis. Tuberculosis has long been known to develop most easily in syphilitics, as the tissues are much less resistant.

Cancer appears to be most frequent in syphilitics. This can easily be proven on investigation, examination of cases, careful family histories, etc.

In all cases we have investigated we have seen *absolutely no evidence* that alcohol is the causative factor in insanity. It has always been syphilis. The neurasthenic are unbalanced; *i. e.*, the syphilitic brain craves; the subject drinks; alcohol poured into a syphilitic brain is disastrous. The *non-syphilitic* alcoholic parents do not beget the idiotic, defective children, but the alcoholic syphilitics do.

One of the pleasantest experiences in this investigation is the easy recognition of cases that are already on the border line of

dementia præcox; cases unmistakably genuine, school children. Many of these have been promptly arrested in development of the malady and saved from the state hospitals.

Also another class: the young moral defectives, little irresponsibles, lying, maliciously mischievous youngsters, perverts, etc.

The recognition of hereditary syphilis is easy in these cases. Practically all have the usual family history. All have the stigmata—optic neuritis, the majority with more or less defective vision, scaphoid scapulæ, deranged, absent, or badly mixed reflexes. Some of these are brought from the juvenile court, some from the defective sections of our schools. These show a large percentage of positive Wassermann.

As I said before, the clinical signs are easy to read in all these cases, and it has been pleasurable to be able to recognize the incipient dementia præcox cases, with the stigmata complete, the tell-tale family history, and with anti-syphilitic treatment, see those distressing symptoms disappear, the patients return promptly to mental and physical health. Much has been written and said about the *hereditary taint*. That is a word that should be forgotten; it is not a *taint* handed down, it is the spirochaete itself, and in these nervous cases it is in the parenchyma of the brain and cord, as shown recently in paretic cases by Noguchi, to whom much honor.

I wish to express my thanks to Dr. Milton H. Schutz for the drawings of the optic discs and to Dr. Stephen Wythe, one of my associates in the Oakland College of Medicine, for his assistance with the paper.

The seventeen case records presented have been selected as follows: three acknowledged, acquired syphilis, with direct history of infection; one of these has gone insane; one has acquired pulmonary tuberculosis; one has ocular neurasthenia to a slight degree, but suffers principally from annoying lacrimation; one case of exophthalmic goiter; three manic depressives; one hypophyseal case; one angio-neurotic edema. The balance are of varying degrees of neurasthenia.

Dr. Jau Don Ball reports twelve of the cases; Dr. W. S. Kuder four; Dr. W. H. Strietmann, one.

The original diagnosis was made from the eye findings. The color fields were gone over several times for confirmation. I find,

that when gone over carefully, that the subsequent fields are practical duplications. The sector-like contractions show in exactly the same meridians.

CASE 34 (Illustration I).—Report by Dr. Ball. American housewife; age, 29 years; married.

Heredity.—Father living, age 61 years; keen, active man, having but poor insight into sufferings of others; high-strung. Mother died suddenly after operation for uterine cyst. Suffered severe headaches, and had "eye trouble." Two brothers in poor health.

Health History.—Always had weak stomach; "blinding headaches" when six to eight years old. Optic hallucinations; saw "great lumps of sugar and would walk around them." Appendicitis 12 years ago; operation. Has a great deal of indigestion. Measles and pertussis at age of five years. Mumps at 10 years; tonsillitis at age of 20 years. Menstruation began at age of 11 years and was regular. Pain commenced two years later, always on left side. Flow lasts seven days. One week before menstrual, headaches and pain in cervical and lumbar regions.

Injuries.—None.

Habits.—Good.

Present Illness.—Symptoms of psychomotor acceleration alternating with psychomotor inhibition. Occasionally depressed. Irritability a marked symptom. "Neuritis" pains general. Eyes feel "fuzzy." Muscular weakness.

Neurological Examination.—Plantar reflex: No response. Epigastric reflex normal. Cervical skin reflex sluggish on both sides. Tendo Achilles reflex exaggerated on right side, normal on left. Knee-kick greatly exaggerated on left; exaggerated on right. Superior tendon reflexes: Triceps, biceps, ulnar, radial, and pectoral, all sluggish. Suspicious ankle clonus on right only. Coordination fair. Sensation for pain hyper (especially marked in lower extremities). Sciatic points very tender. Extreme tenderness over both sacro-iliac joints. Subjective pains in arms and legs. Thermic sense markedly disturbed; areas of cold and anæsthesia on right and left sides and extremities; heat sense dulled in upper and lower extremities. Cranial nerves: Nothing abnormal noted. Dynamometer reading: Right 24, left 22. Dermographia present. Thyroid slightly enlarged.

Remarks.—The brother of this young woman likewise had double optic neuritis of more constant bad character than the sister. Was delicate, timid, lacked confidence in himself. Suddenly lost hearing in one ear (labyrinthine deafness).

Under treatment he has developed splendidly; gained weight, has ruddy complexion, has the looks and carriage of a man, which he lacked before. The optic discs were both swollen, borderless, red as the retina; color fields very much contracted.

Treatment.—Patient's eyes would cloud up with a translucent swelling on the disc, which would leave perhaps in a few days. A few weeks iodipin cleared up the vision to 20/20, and a general feeling of well-being followed.

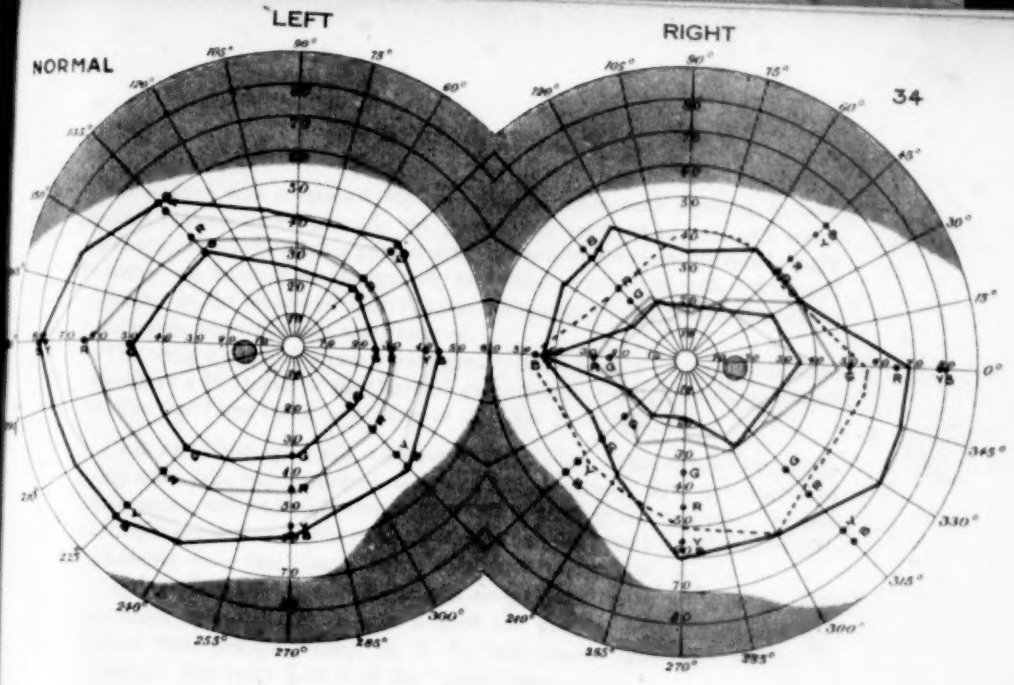


ILLUSTRATION I

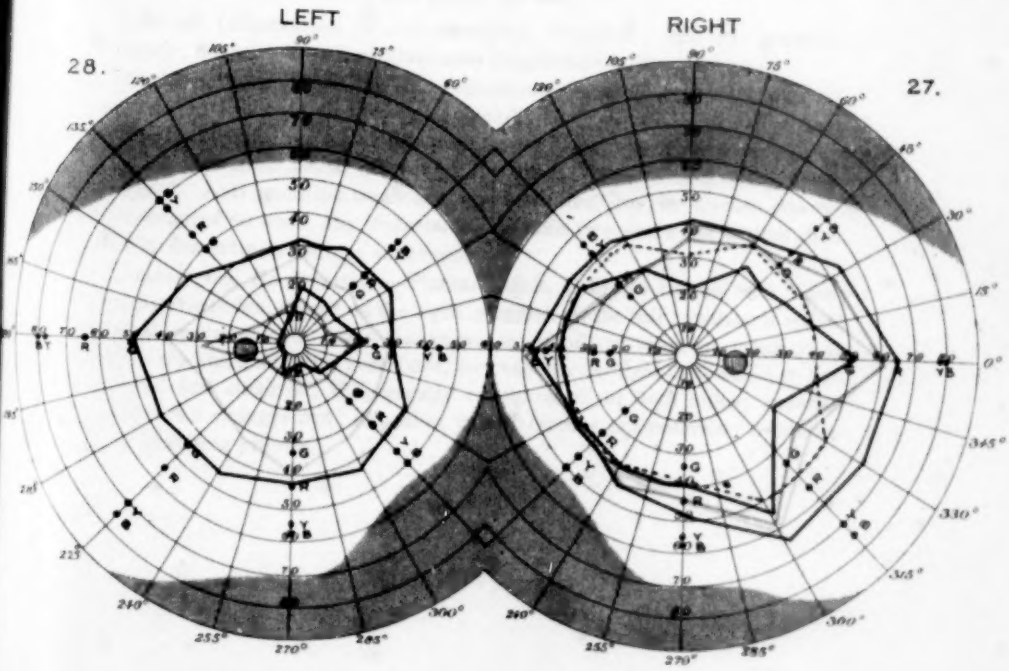


ILLUSTRATION II

Then iodipin was continued for two months, when such swelling in both gluteal regions took place that the patient was confined to bed. All treatment then was refused, but patient kept up the improvement for nearly eight months—no headaches, always felt well, strong and vigorous, a changed woman. In the middle of March, 1914, the eye-symptoms returned with the headaches, and treatment was resumed.

The optic discs in this case varied greatly from week to week. At no time was there a P. O. and at the times of exacerbation a cloudy swelling almost hid the disc from sight, as in plate of disc No. 7. (Page 61.)

CASE 27 (Illustration II).—Report by Dr. Kuder. This case is one of the early ones, who was suspected of having a brain tumor. Age, 45; American housewife; suffered with almost constant headaches for 10 years. Lenses had been prescribed by me 10 years ago. I had not been consulted about the headaches since that time. Vision 20/30, not improved by lenses.

In April, 1912, patient came with a severe papillitis of the left eye with extensive hæmorrhages in and around the papilla. The right disc was redder than normal, dusky, no P. O., but vessels apparently normal in relation. The color field is of the "good" eye.

Several diagnoses were made by several internists. Brain tumor, thrombosis of cavernous sinus, etc.; Wassermann negative; X-Ray failed to locate anything. As this "merry widow" has had three husbands, and one of these died of syphilis, she was put on antisyphilitic treatment; Salvarsan; several injections; iodipin; and mercury injections. Her headaches cleared up, the progress of the papillitis was stayed, the vision in the right eye came up to 20/15 plus, and the patient is feeling better than in years.

Long after treatment was begun, and she began to feel better, she informed us that she had had alternate fits of exaltation and depression with suicidal tendencies and had kept poison on hand.

CASE 28 (Illustration II).—Nationality, American; age, 76; married; attorney; negative heredity; diagnosis, progressive bulbar paralysis.

When the patient came under observation, the symptoms were well advanced. In this case no history of syphilis could be obtained, but a diagnosis of a syphilitic base for this organic condition was made from the eye findings and color fields, after which positive Wassermann reaction was obtained. Anti-syphilitic treatment was instituted, but the disease was too far advanced to make any impression. Within two years the patient died, paretic dementia symptoms supervening.

Neurological Examination.—Plantar reflex, Babinski toe on both sides; cremasteric reflex, absent on the right, sluggish on the left; epigastric reflex, normal; cervical skin reflex, no response; pupillary reaction, reaction to light very sluggish (one year later, no response to light); tendo Achilles, unequal and sluggish; KK, greatly exaggerated on both sides; superior tendons, all exaggerated; sensation, unsatisfactory examination; coordination, Romberg present.

CASE 116 (Illustration III).—Report by Dr. Ball, January 2, 1913. American, unmarried; age, 34; stenographer; father living, age, 64; poor health for several years, having had maxillary sinusitis, pleuritis and periostitis. Mother died insane, after having suffered from epilepsy for 30 years. One brother has chronic sinusitis and an amblyoptic eye, one sister chronic maxillary sinusitis, one brother well. All have marked optic neuritis. One aunt and uncle neurasthenic. Maternal grandmother died of goiter.

This case—116—suffered all her life from fearful headaches, prostrating in character, severe attacks of hyperacidity, paroxysmal attacks of pain in abdomen, painful over pylorus and appendix; patient describes this as chronic "stomach trouble." *Crises.*

Examination revealed sternum and tibiæ tender, and periosteum thickened; a few inguinal and numerous cervical glands, heart and lungs negative; patient has noticed brownish discoloration remains at sites of healed acne lesions.

Memory good, slight vertigo present, sleep variable, Romberg negative, exaggerated reflexes both upper extremities, exaggerated reflexes right knee and ankle, diminished left.

Patient at first treated with potassium iodide, as she refused iodipin injections; later however took the injections. April, 1913, reports a great improvement; gastro-intestinal symptoms gone, feels better than she has in years.

April, 1914, has had during year courses of mercury and arsenic, and is better than ever in her life; very rarely has a headache.

CASE 23 (Illustration III).—Report by Dr. Ball. Jewish student; age, 22 years; single.

Heredity.—Mother psychasthenic; maternal uncle, paralysis; paternal, Wassermann spinal fluid; father apparently normal; grandfather died at 70, nervous wreck many years; two sisters, hysterical neurasthenia.

Health History.—1909, lobar pneumonia; diphtheria; chicken-pox; 1910, ophthalmic herpes zoster.

Injuries.—Head injury at age of ten, slight scalp wound.

Habits.—Good. History of excessive masturbation.

Present Illness.—Began in spring of 1908. Phobias; sense of unreality. Fatigues easily; depression; vague pains in eyes; persistency of images; flashes of darkness. Globus; at times difficulty in swallowing, making a choking, noisy effort swallowing. Constipated; dry, harsh skin; insomnia at times.

Neurological Examination.—Plantar reflex: No response, except for excessive action of muscles on anterior portion of thigh. Cremasteric reflex normally active. Epigastric reflex normally active. Tendo Achilles reflex normally active on both sides. Knee-kick: Left exaggerated; right sluggish. Superior tendon reflexes: Triceps and biceps on both sides sluggish; pectorals normal. Coordination good. Sensation normal. Cranial nerves normal, with possible exception noted in speech at times (slight tremor and a distant tone). Memory good. Logical powers good.

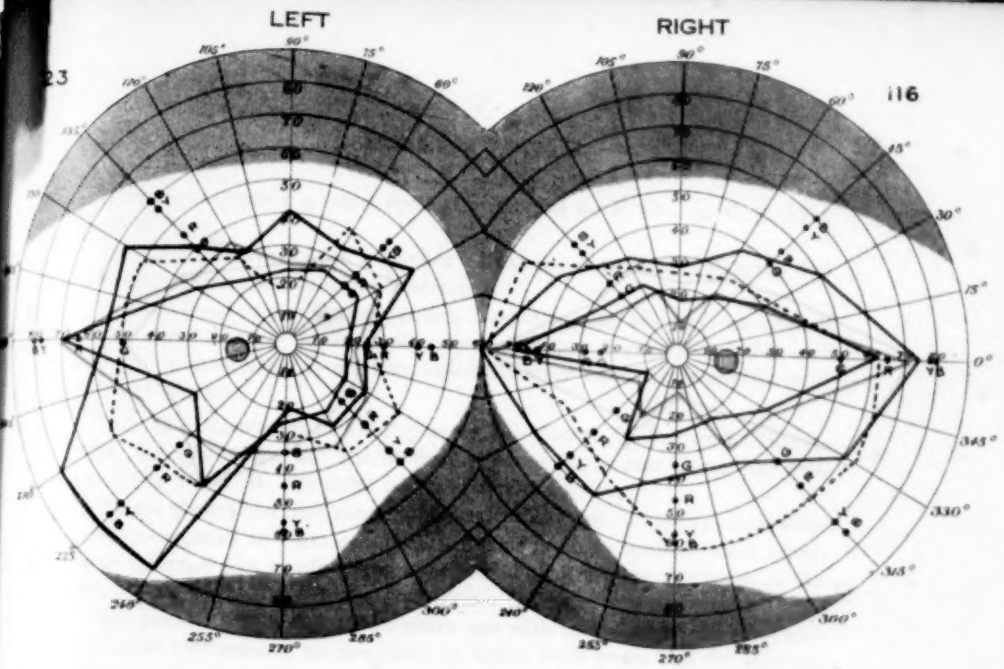


ILLUSTRATION III

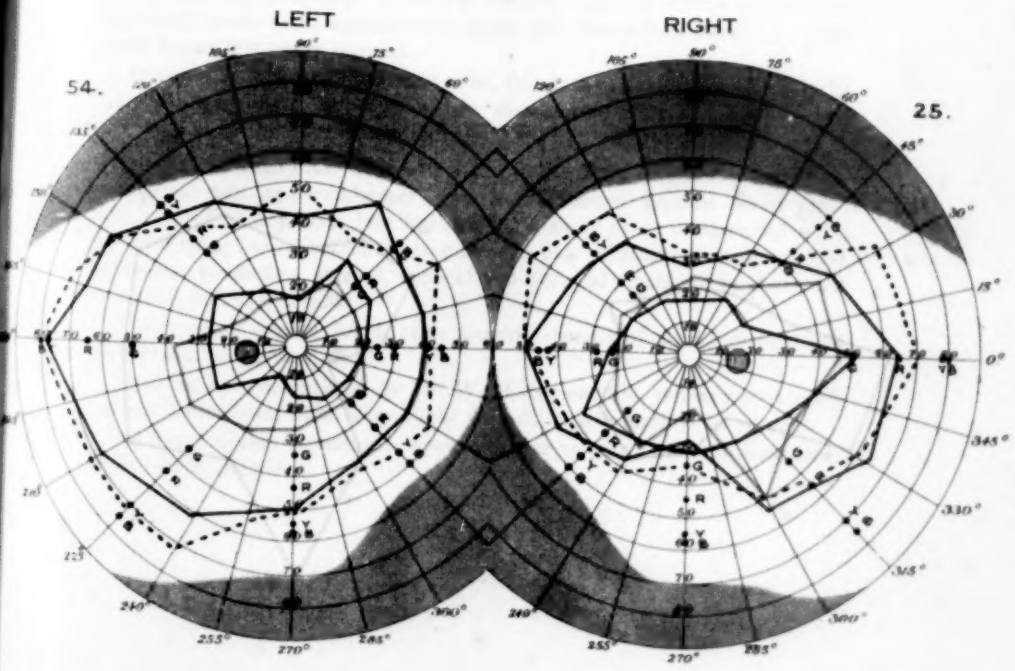


ILLUSTRATION IV

THE
JOHN CRERAR
LIBRARY

Remarks.—October 9, 1912, optic neuritis and no P. O. April 23, 1913, P. O. present.

Had had to leave school a number of times owing to neurasthenia and phobias; at times had suicidal tendencies.

Treatment.—Iodipin intramuscularly; salicylate of mercury, cacodylate of mercury, mercury by inunction; hydrotherapy; regulation of diet and hygiene; improvement is marked, especially since intensive treatment with mercury began.

CASE 54 (Illustration IV).—Report by Dr. Kuder, April 2, 1912. Housewife, American; age, 42. Father died of apoplexy, mother living and well, one sister had T. B., one sister has exophthalmic goiter.

Patient always had been remarkably healthy and full of vitality and spirits.

Water on knee 10 years ago, thinks it came from an injury. Knee symptoms returned five months ago, associated with irritation and pains in the eyes; some headache. Habits, occasionally too much champagne.

The present illness began two years ago with irritation in the eyes with persistent lacrimation; no treatment or fitting with lenses had the slightest effect on this distressing symptom. She consulted several oculists between Oakland and New York, and the best she got was the advice to try Christian Science. (Her husband is a known syphilitic, though not married until 10 years after the initial lesion was obtained.) On her return to Oakland I was again consulted about her hearing which had become defective; on examination further I found the vision had also reduced to 20/30; taste was markedly off; everything tasted alike; sense execrable; said she got furiously angry over little things that previously did not affect her; nervous and depressed for no apparent reason. Had sensation as of swollen hands.

The neurological examination is incomplete, as the patient did not submit to it, except the following: Romberg marked, superior tendon reflexes exaggerated, lower right exaggerated, lower left diminished, sensation, right upper hypo; left upper normal.

On vigorous anti-syphilitic treatment, this patient has improved remarkably, the persistent lacrimation has disappeared, and she has gained markedly in weight and is superlatively good natured and happy.

CASE 25 (Illustration IV).—Report by Dr. Ball, September 25, 1912. American; age, 34; bookkeeper; married. Primary syphilis seven years ago; treated at Arkansas Hot Springs for a short time; pronounced well; married 1909; has one child thirteen months old. Consulted me on account of intense headaches, frontal, vertical and occipital; stabbing in character, and more or less constant.

There was an intense double optic neuritis—border of discs indistinct and fiery red in color, no P. O.

Neurological examination by Dr. W. H. Strietmann, reflexes apparently normal throughout, tibiæ show slight periostitis with marked tenderness.

Romberg, slight; sensations; hypersensitive to pain; thermal sense normal, iodipin injections.

October 15, reports improvement of headaches, put on potassium iodide.

December 18, headaches becoming worse.

December 28, /12 Neo Salvarsan six decigrams.

April 15, reports by letter that headaches have almost gone and has gained 15 pounds in weight during treatment. This patient lived some distance from Oakland, and owing to that could only come in occasionally for treatment. In June, 1913, patient suddenly developed bulbar paralysis, general paresis and was taken to a hospital for the insane.

CASE 119 (Illustration V).—Report by Dr. Ball. American housewife; age, 38 years; married (divorced).

Heredity.—Mother suffering from melancholia.

Case History.—Married at the age of 20, and divorced after six years. Has one son 15 years old. Had two abortions prior to the birth of this child, and one three years following its birth. Had no injuries. Is a constant user of alcoholic stimulants. Has always been delicate. Had "stomach trouble" for years. Spells of nausea and vomiting. Fifteen years ago had a skin eruption in the form of vesicles or blisters. Ten years ago face was swollen; typical angio-neurotic edema. After husband returned from the Orient, wife developed this skin trouble.

Present Illness.—At present time patient is suffering from angio-neurotic edema, neurasthenic symptoms, periodical pain, and great irritability, and fatigues easily.

Neurological Examination.—Plantar reflex: No response. Epigastric reflex present. Cervical skin reflex present. Tendo Achilles reflex sluggish on both sides, hard to elicit. Knee-kick greatly exaggerated on the left; less on the right. Suspicion of Gordon paradoxical reflex. Coordination: On both feet, fair; on one foot, poor. Sensation somewhat delayed. Occasionally tender sternum. Right lobe of thyroid enlarged, tenderness over the liver, marked tenderness over the appendix, left iliac region tender, considerable tenderness over the course of the left sciatic nerve. Hair is undoubtedly gray, but patient dyes the hair. Very anemic. Wassermann negative.

Treatment.—Refused intramuscular treatment, but takes internal treatment intermittently. Improves rapidly; treatment ceases; then takes treatment again, and again improves.

CASE 26 (Illustration V).—Report by Dr. W. S. Kuder. American housewife; born August 19, 1860; married.

Heredity.—Nervous and mental history negative. Mother died at age of 50 (pneumonia); father died at age of 63 ("dropsy"); one brother died at age of 40 (pulmonary tuberculosis); a half-sister died at age of 24 years (eclampsia). Oldest daughter (25 years) healthy. Second daughter (22 years) has fainting and dizzy spells, and frequent headaches; is subject to "colds"; has tenderness over appendix; has a mitral systolic murmur; has dry, harsh skin. Third daughter (14 years) has headaches, and a marked acne.

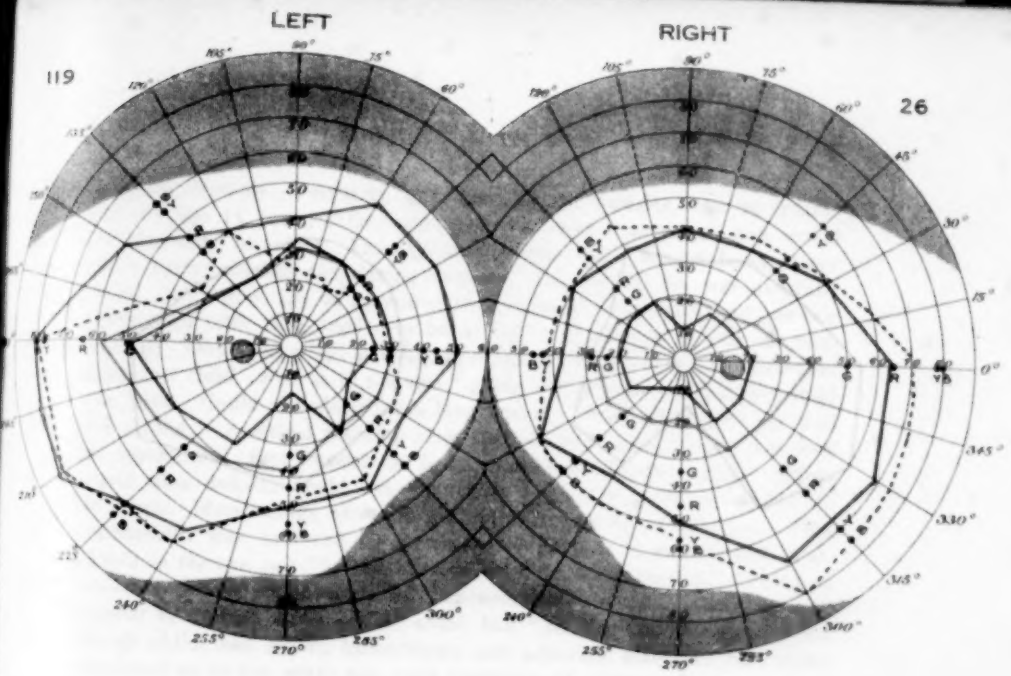


ILLUSTRATION V

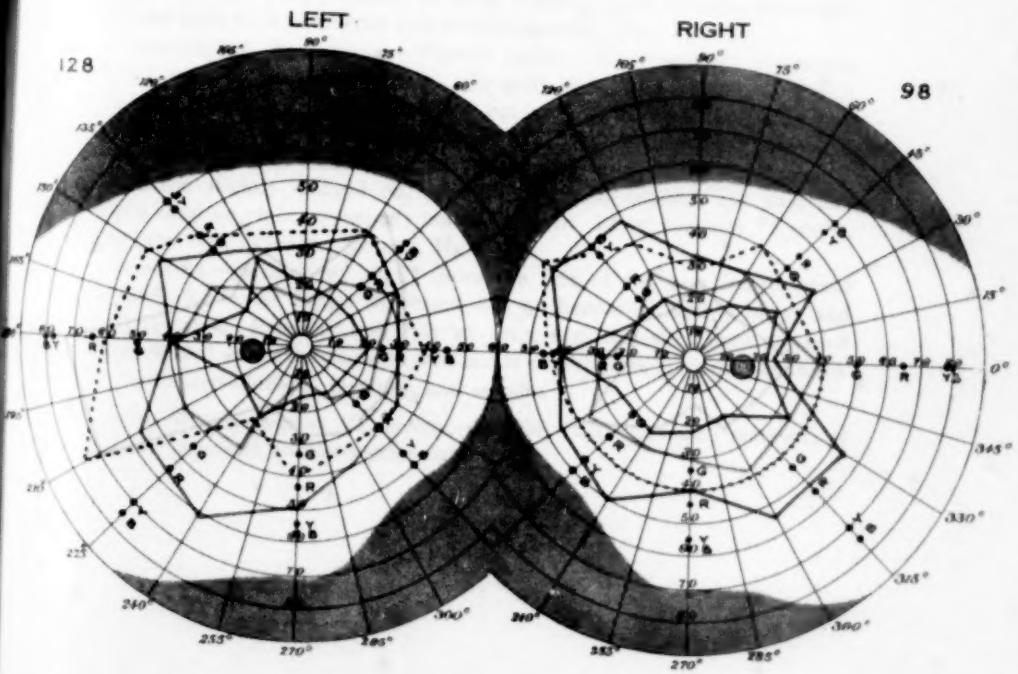


ILLUSTRATION VI

Health History.—Pertussis, age four years; measles, age 20 years; typhoid, age 15 years, after which she was very "nervous," and would "scream out" in public. This "gradually wore off." Scarlet fever at age of 11 years; chicken-pox during infancy. As a child, she was naturally timid. Married at age of 24 years; four children, three girls and one boy (girls born 1886, 1889, 1898; boy born 1893). One abortion and one miscarriage. One miscarriage between first and second child. Badly lacerated after first child. Felt as if she was "going out of mind" after first child was born. Could not sleep for a long period; "took months to get well and strong." Attached placenta after second child; hemorrhage, followed by septicemia; four weeks in bed; months recovering; slight phlegmasia alba dolens; could not stand for long time; always wished to sit down. Hemorrhage after third child; placenta again adherent. This confinement was followed by *ulceration or patches in vagina and labia, visible to the eye and "looked like canker-sores in the mouth." This was followed almost immediately by "rheumatism" in all joints, especially painful in knees.* After second child, had "sciatica" in left leg. After fourth child, had severe hemorrhage and adherent placenta; but health improved up to five years ago, with exception of occasional "touches" of rheumatism. Four years ago, had "nervous breakdown" and has not been well since. At age of 24 years, a few weeks after marriage, developed "shingles." Also had enlarged cervical glands and night-sweats.

Injuries.—None.

Habits.—Good.

Present Illness.—Began four years ago with a "nervous breakdown," since which time she has had pain in back of head, a "sapping of strength," a "leakage somewhere," "insomnia," fainting spells, especially when standing; felt she could not talk; belched great quantities of gas; had various phobias; pain in head gradually growing worse at night; irritable and weak; did not wish to meet friends and avoided making calls.

Neurological Examination.—Plantar reflex: No response. Epigastric reflex unequal, sluggish on left. Cervical skin reflex sluggish. Pupils slightly irregular. Tendo Achilles reflex: Both sluggish. Knee-kick exaggerated on both sides, more so on left. Superior tendon reflexes all exaggerated. Coordination: Both upper and lower fair, no Romberg. Sensation slightly delayed on soles of feet. Threshholds for pain and touch hypo on right, apparently normal on left. Blood pressure: Systolic, 210 mm. Hg; dyastolic, 196 mm. Hg.

Remarks.—January 30, 1913. Since the first of the year improvement is marked. Is not longer depressed, has no headaches, and is happy and easy in mind. Reported last, July 20, 1913; says that she "does not need a physician" as she is feeling so well and is entirely free from all symptoms.

Treatment.—Iodipin, mercury, and sajodin.

Case 98 (Illustration VI).—Report by Dr. Ball. German; married; at present salesman, formerly prize-fighter.

Heredity.—Father died at age of 76 (cystitis); was very "nervous," alcoholic, and had a fiery temper. Mother died at age of 84, cause unknown; rheumatic, has "heart disease," and was operated on for hydrocele; one brother, 52, good health, was operated on for hydrocele, married, six children, all well; one brother, 50, is "wild," alcoholic, married, one son in good health. Patient has three children: two boys, seven years and 17 years; one girl, 14 years. Oldest boy has rheumatic attacks, asthma, strabismus, and optic neuritis.

Health History.—Travelled a great deal and lived in the Orient for a number of years; drinking more or less excessively. Had ordinary diseases of childhood; also suffered from boils or abscesses on neck. Gonorrhœa twice; herpes zoster, right intercostal, two years ago, followed by cough of several months duration.

Injuries.—Ordinary injuries incident to life of a prize-fighter. Eleven years ago was hit on the head, in right parietal region; momentarily unconscious. Plain rectal fistula on left side, treated by "injection."

Habits.—Alcoholic, great smoker; dissipated life.

Present Illness.—Began three years ago with "stomach trouble." At that time, and off and on since, had shooting pains in the shoulders, more marked on the right side. Failing sexual power past two and a half years, and at present is impotent. At present is easily frightened and worried, easily irritated; has vertigo, headaches noticed past two months for the first time. Two months ago noticed diplopia, which was followed by exophthalmos and paralysis of inferior rectus muscle of the right eye. Typical exophthalmic goiter developed, the marked symptoms being exophthalmos, tremor, and tachycardia.

Neurological Examination.—Plantar reflex absent on left, sluggish on right. Cremasteric reflex sluggish on right, exaggerated on left. Epigastric reflex sluggish. Cervical skin reflex absent on right, sluggish on left. Tendo Achilles reflex greatly exaggerated. Knee-kick greatly exaggerated on both sides. Superior tendon reflexes all greatly exaggerated. Coordination poor; ataxic gait; keeps eyes on floor when walking. Slight incoordination of facial muscles. Faint fibrillary tremor of both hands, and of upper lip. Inspection: Darwin ear; exophthalmus, both eyes; fingers are clubbed and blistered; skin scaly on both hands, especially marked on the first and second finger and the palmar aspect; jaws abnormally large; cachexia. Sensation: Sluggish reaction to pain; tender shins; thermic sense exaggerated for heat; cold normal up to knees and elbows. Dynamometer reading: Right, 44 pounds; left, 34 pounds.

Remarks.—The wife had several miscarriages after the birth of the first child.

Treatment.—Iodipin 10 cc. in series of 10 doses, alternating with mercurial inunctions, 60 gr. each, in series of 22 inunctions; hygiene and dietetic; hydrotherapy.

Eye examination, September, 1912: Vision 20/30, both eyes; media clear, slight swelling and haziness of both discs. No P. O. December 16, 1912: Vision OD 20/30(½). April 12, 1913: OD 20/20+, OS 20/15(½).

July 19, 1913: 20/15 both eyes, with corrections, and diplopia disappeared. November 28, 1913: Discs level, normal color, light spots appearing where P. O. should be. March 11, 1914: Both discs clear, P. O.'s showing as P. O.'s, though small.

CASE 128 (Illustration VI).—Report by Dr. Ball. Male; age, 32.

Heredity.—Father living, a man of high mental attainments, a lawyer and politician by profession, characterized as somewhat eccentric, age about 72. Mother living, quiet woman, of melancholy disposition. History of grandparents negative except for paternal grandmother, who had senile dementia. Two brothers living, one aged 30, one aged 36; both intelligent men and yet somewhat eccentric. The one aged 36 has a very violent temper as a psychical characteristic. The one aged 30 is noted for his stubbornness and great unreasonableness. One sister living, who is of a depressed nature, seclusive in her attitude toward life and not liking company.

Health History.—The patient has had the ordinary diseases of childhood. Rural life until the age of 18; then college life; then occupation as a civil engineer. Acquired syphilis nine years ago. Six years ago acquired pulmonary tuberculosis.

Present Illness.—This case is an actually known syphilitic case and, as such, gives typical fundi findings and color fields. Several positive Wassermann reactions prove the existence of the disease.

Neurological Examination.—Apparently some atrophy of the interossei muscles dorsal of the hand. Hypertrophy: None. Plantar reflex: Delayed normal response. Cervical skin reflex decidedly sluggish. Epigastric reflex normal. Cremasteric reflex very sluggish. Gordon paradoxical reflex present on the right. Tendo Achilles reflex unequal and very sluggish, more sluggish on the right. Knee-kick: Right absent, left very sluggish. Superior tendon reflexes apparently normal; if anything, a little sluggish. Cranial nerves apparently normal, except that pupillary reaction to light seemed sluggish. Coordination not good for lower. Sensation delayed. Thyroid slightly enlarged. Scapulæ scaphoid.

Treatment.—This man was treated vigorously for 18 months after the primary sore, then spasmodically thereafter up to the present time.

CASE 133 (Illustration VII).—Report by Dr. Ball. Irish housewife; age, past 50 years; married.

Health History.—Had several miscarriages followed by the birth of one child, which lived to be 17 years old. Had measles at 12 years of age. Five years ago had skin disease, forming vesicles which dried and became scaly, leaving raw and painful surfaces.

Injuries.—Has had no injuries.

Habits.—Is possibly an alcoholic.

Present Illness.—Complains of numbness and tingling of the extremities. Various paræsthesias, abdominal pain, cardiac palpitation. Badly constipated, and has hemorrhoids, badly lacerated perineum and cervix. Pulse 110. Former weight, 195 pounds; present weight, 150 pounds. The patient is cachectic; occasionally has involuntary urination. Dried ulcer on the right

great toe unaffected by treatment to date. Very emotional, cries easily and is distressed. Complains of vertigo and sleeps very poorly.

Neurological Examination.—Plantar reflex: No response. Epigastric reflex normal. Cervical skin reflex sluggish. Tendo Achilles reflex unequal, very hard to elicit on the right. Knee-kick greatly exaggerated on both sides. Superior tendon reflexes: Biceps and triceps cannot be elicited; very sluggish. Sensation is markedly delayed in feet and hands. Coordination poor, especially on one foot. Frequent examination of the urine shows glycosuria varying from 2 per cent to 6 per cent. Mental condition: Memory is poor for recent events; logical powers are poor. Is very emotional. Vertigo is occasionally present, and sleep is poor. Wassermann reaction is negative. Three years ago had melancholia for three months.

Treatment.—Improved markedly under antisyphilitic treatment; then abandoned treatment, and died four months later from "uremic coma."

CASE 160 (Illustration VII).—Report by Dr. Ball. German-American woman; age, 63 years; married.

Case History.—Patient's husband left her about 30 years ago. He was a man who was away from home a great deal and who went around with other women; especially did this occur during the last year that he lived with her. Patient says her husband was healthy, except that he had "granulated eyelids." Had three children, two of whom died under the age of five. No miscarriages. Had children's diseases, as measles, scarlet fever, etc., when a child; but in young adult life was very healthy and strong, except for the "rheumatism" mentioned below. Had tape-worms when a young woman. Had had "lumbago" during last two or three years.

Present Illness.—Complains of *twitching of eyelids.* Twitching has been going on for past seven months, following fall which produced blackening of entire face. Also has worried a great deal. Has worn glasses for a few months. Has had "rheumatism" a great deal for a number of years, with some sharp pain in left eye. Optic neuritis.

Neurological Examination.—Babinski negative. Oppenheim negative. Gordon negative. Ankle clonus negative. Knee-kick slightly exaggerated on right, normal on left. Tendo Achilles reflex normal. Cervical skin reflex normal. Pupillary reflexes normal.

Treatment.—Took KI and mercury iodid, and "rheumatism" and twitching disappeared.

CASE 118 (Illustration VIII).—Report by Dr. W. S. Kuder. Mrs. E., American, 47 years of age, was referred to me for consultation in May, 1912.

Her mother died of pulmonary tuberculosis. Her father at an advanced age came to death unknown. One sister died of apoplexy at 51, otherwise the family history was negative.

In childhood she had measles three times, and she thought most of the other diseases common to childhood, including diphtheria. Four years ago she suffered a severe attack of typhoid, and two years previously she had the left breast amputated for cancer. She had only one pregnancy, which re-

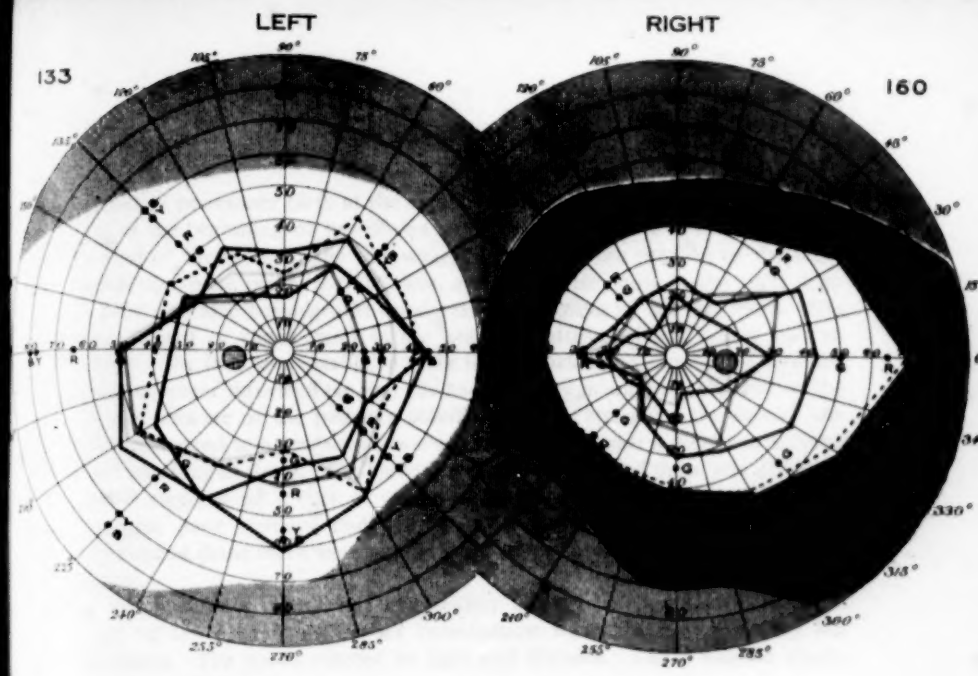


ILLUSTRATION VII

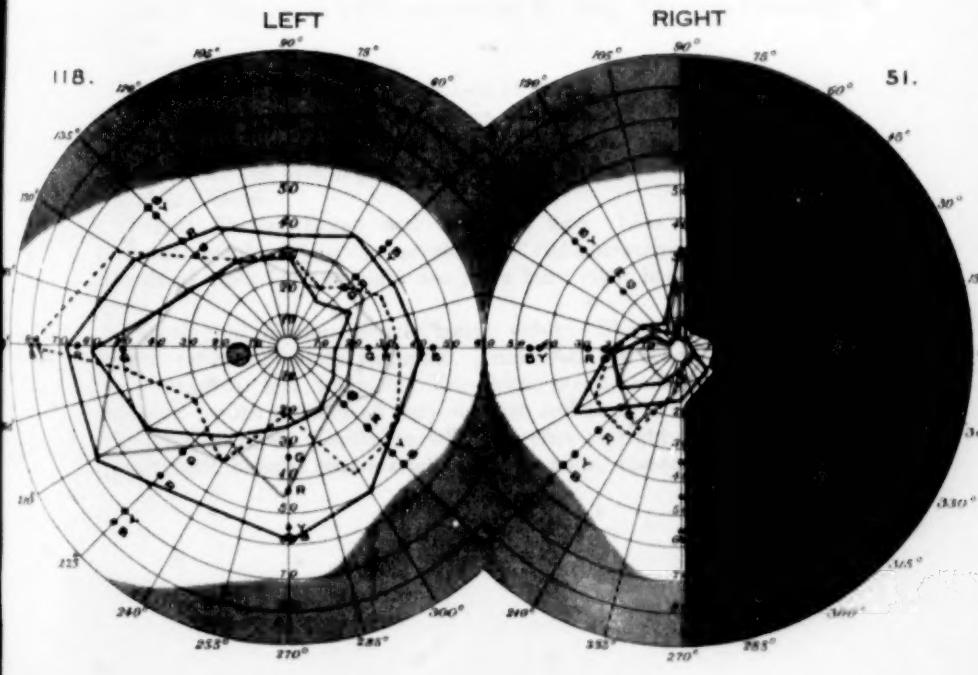


ILLUSTRATION VIII

sulted in premature birth at the eighth month without apparent cause. She dated the beginning of her illness to two years previous following the removal of the breast. She was wakened at night with tingling of the right great toe, bone pains in right tibia, and rheumatic pains in the right arm. There was also considerable numbness and tingling of the left hand. She complained of vague pains in the head and attributed her falling hair to them. She had been unable to walk in the dark for a number of months, and her sister informed me that she had difficulty in walking with her on the street, because of the patient's inability to walk straight. On inquiry she acknowledged to a tendency towards hysteria and great difficulty in writing and speaking at times. The bladder was incontinent and there was dribbling when stepping off a curb or car. She complained of frequent feelings of vertigo, poor memory and very poor sleep. In addition to the above mentioned pains there were almost daily seizures of lancinating pains in the head.

In appearance the patient was healthy but extremely stupid. Questions had to be repeated and cross examination was necessary to verify her answers. The pupils reacted to light and distance. There was no abnormality of the head.

The sternum was equisitely tender, as were also both tibiæ. Examination of the heart and lungs negative. The only finding in the abdomen was a somewhat enlarged liver. The examination of the nervous system revealed a pronounced Romberg, exaggerated reflexes of all extremities, with a marked diminution of sensation of the right upper and lower extremity. There was no Babinski, Gordon or Oppenheim.

The patient was treated in courses with iodipin, mercury, sodium cacodylate, intramuscularly until the following March when a recurrence of the cancer required a second operation, making further treatment useless.

Case 51 (Illustration VIII).—Report by Dr. Ball. American housewife; widow.

Heredity.—Negative.

Health History.—As a child "abscess of spine"; typhoid fever about age of 14, followed by squint. Numerous miscarriages. "Nervous prostration" one year ago, since which time she has been unable to see in right field, and has had difficulty in using right leg and right arm.

Habits.—Good.

Present Illness.—Began over one year ago. Loss of weight, some "stomach trouble," "nervous prostration," right homonymous hemianopsia, paresis of right leg and right arm; can burn right hand without feeling heat.

Neurological Examination.—Plantar reflex: Sluggish response. Epigastric reflex: Sluggish response. Tendo Achilles reflex unequal; right very sluggish, left sluggish. Knee-kick greatly exaggerated on left. Superior tendon reflexes all very sluggish and hard to elicit. Oppenheim toe reflex on right. Gordon paradoxical reflex on right (also compression of left calf induces paradoxical reflex on right, contra-lateral Gordon).

Coordination: Romberg present. Slight tremor in upper extremities. Sensation: Threshold for pain hypo generally, and quite sluggish on soles of feet. Threshold for heat and cold markedly diminished in upper extremities, more especially on right side. Tactile sense preserved, giving a suggestion of dissociation of tactile and thermic senses such as is often seen in syringomyelia. Mental examination: Flow of ideas slow, generally retarded (both motor and sensory retardation). Somewhat confused. Irritable at times.

Remarks.—Fundus difficult to see; dusky red disk; no P. O.; vision, right eye 20/80, left eye 20/120.

Treatment.—This patient had to be assisted into the clinic, head wobbling from side to side, gait like that of an intoxicated person. After three weeks' anti-syphilitic treatment, patient became herself, vision improved and her general feeling was fine; after this she disappeared.

CASE 10 (Illustration IX).—Report by Dr. Ball. Male; farmer; married.

Case History.—Patient first came under observation for his mental condition in May, 1908, showing typical manic-depressive insanity with marked suicidal and homicidal impressions. Had always been considered an eccentric individual; rather flighty; ideals above the average; somewhat of a dreamer at times; excellent ability in his line, as orchardist and farmer; some literary tendency.

After a short residence in a private sanitarium, he was fairly well recovered, so as to be able to live with friends, but had his depressions and exhaltations, during which time he had to be carefully guarded.

Present Illness.—Examination in 1912 shows a double optic neuritis of the type described above, and of disc No. 4. (Page 61.) Also contracted and interlaced color fields. Notwithstanding a denial of venereal diseases, the assumption of a syphilitic base for his condition was made wholly on the eye findings. A subsequent positive Wassermann reaction was obtained.

Neurological Examination.—Atrophy: None. Hypertrophy: None. Movements: Voluntary, active and rapid; involuntary, slight tremor of lips at times. Plantar reflex: No response. Cervical skin reflex sluggish. Epigastric reflex normal. Cremasteric: Sluggish. Tendo Achilles reflex: Plus 2 on the right, slightly exaggerated on the left. Knee-kick greatly exaggerated on both sides, and a little more so on the left. Superior tendon reflexes all exaggerated. Sensation: All thresholds were hyper. Subjectively, there was a feeling of unreality at times, and various paræsthesias. Tender areas over tibiæ and sternum. Coordination fair for lower extremities, good for upper extremities. Cranial nerves were normal.

Treatment.—Immediately anti-syphilitic treatment was vigorously instituted with surprising improvement, which has reached the point, during the past year, where the patient has been able to earn a good living for himself and has been enabled to send money to his wife. Prior to the time when anti-syphilitic treatment was instituted he could not sustain a continued effort along any one line for any length of time. All sorts of schemes pervaded his brain, and an ultimate organized existence seemed impossible.

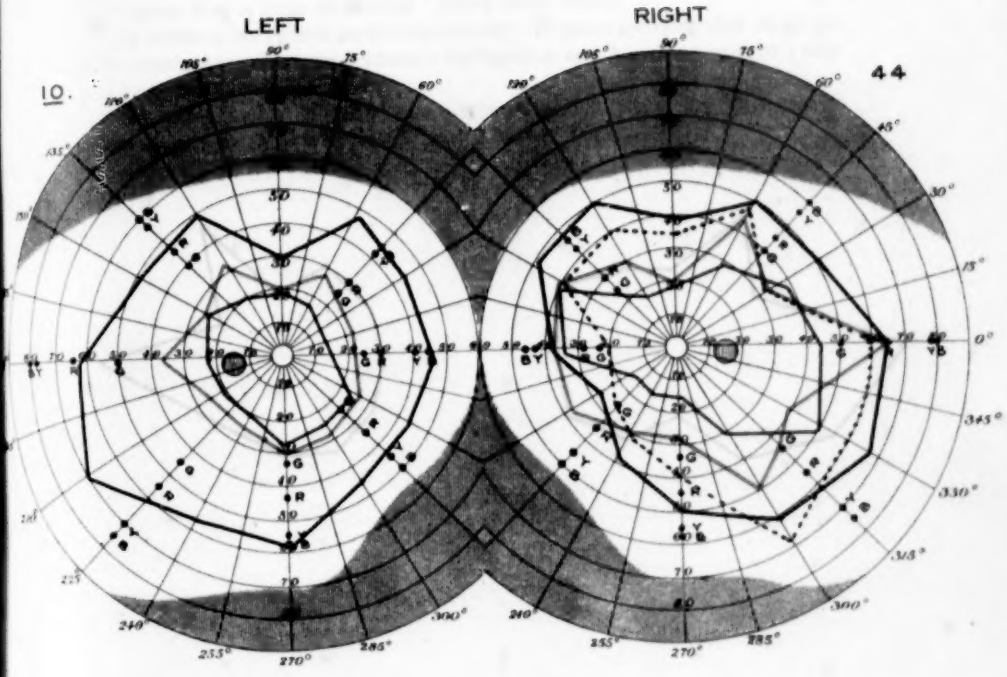


ILLUSTRATION IX

This man is faithful, taking his treatment at the present time; and although I do not consider him entirely recovered, the improvement has been so marked and so even, since the day of the beginning of the anti-syphilitic treatment, that I feel hopeful of a recovery of at least 90 per cent of his former efficiency.

Case 44 (Illustration IX).—Male; age, 36; musician. Right eye.

Primary syphilis eight years ago; treated with the ordinary potassium iodide, and protoiodide of mercury for two or three years. His physician now gives him a little treatment "every little while."

His vision is 20/15 and 20/20 respectively, accepts a cylinder plus .25 ax 90. Has constant trouble with irritative lacrimation and has come once or twice a year to have lenses refitted.

Optic discs deeply reddened and slightly cloudy. No p. o. This case is given simply to show a syphilitic with a direct history.

SYPHILIS AS THE ETIOLOGICAL FACTOR IN THE SO-CALLED FUNCTIONAL NEUROSES AND PSYCHOSES.

By JAU DON BALL, M. D.,
Professor of Neurology and Psychiatry, Oakland College of Medicine and Surgery, Oakland, Cal.

The study of etiology of disease has engrossed the medical mind since the time of Hippocrates, who believed that "the causes of all diseases are realities, provided we could find them out, and that they are not vague abstractions."[1]

It is most interesting to note the etiology of the various so-called functional neuroses as given in the leading text-books.[2] The following are examples:

Neurasthenia.—Heredity, emotional disturbances, mental exhaustion, overwork, loss of blood and of lymph, infective diseases, sexual excesses, masturbation, trauma.

Hysteria.—Heredity, mental excitement, mental strain, imitative instinct, loss of body fluids, masturbation, trauma, castration, chemical intoxication (lead, arsenic, mercury, bisulphide of carbon, chloroform, ether), infective diseases.

Migraine.—Heredity (90 per cent of cases), mental exhaustion, prolonged exhaustion, prolonged emotion, reflex origin, gout, bad air, variation in atmospheric pressure.

Exophthalmic Goitre.—Heredity (even through four generations), emotional excitement, difficult labor, infective diseases, trauma, neuropathic tendency, hysteria.

Deliberation on the above-cited and accepted "causes" will at once make apparent their incogitancy. The same "causes" are evidenced in a number of diseases which are clinically dissimilar. The phrase "functional neuroses" covers many flaws in our ability to diagnose correctly a group of symptoms referable to the nervous system.

The distinction between functional and organic diseases of the nervous system is a most important diagnostic problem. It is just as vital to ascertain the essential etiological factor in a functional

disturbance of the nervous system as it is in an organic disease of the nervous system, it being essential for a correct prognosis and rational treatment.

A clean-cut division into organic and functional diseases of the nervous system cannot be made. Very few are the diseases coming under the head of "functional neuroses." The reverse may be stated concerning organic diseases of the nervous system.

Inasmuch as we commonly understand as antithetical, the terms "functional diseases" and "organic diseases," as applied to diseases of the nervous system, we usually think of them, on the one hand, as a class of cases exhibiting symptoms due to disturbances of function alone and without associated changes in structure; and, on the other hand, as a group of symptoms dependent on actual tissue-alteration.

Between these extremes—functional diseases and symptoms due to organic change—we have many gradations, many of which are slumped into functional neuroses, for the reason that the symptoms manifested are not characteristic of actual degeneration of some particular tracts or group of cells in the cord or the brain.

Still unsettled is the actual inciting cause, "the origin of the disturbance of the mechanism of the nerve, the pathogenic agent to which the nervous system succumbs." The unknown factor should be diligently sought for, and cognizance should be taken of every suggestion as to its identity.

True, it may be that the usual group of "causes" exhibited in our so-called functional neuroses, angio-neuroses, and trophoneuroses, has an important bearing and should not be disregarded. However, there must be, in my opinion, some definite cause underlying all; something which makes possible the conditions we find in our neurasthenics; hysterics, angio-neurotics, and trophoneurotics; something which prepares the soil and, when the seed is sown, produces the crop.

Syphilis has been suppressed, that is, as far as acknowledgment or discussion of it is concerned; for anyone daring to mention that this disease is with us is immediately hushed. Accordingly, syphilis has thrived in the darkness of ignorance and the prudery of ages. Medical men, even the most enlightened, conscientious members of the profession, have been blinded as to the far-reaching effects of this disease, and have allowed themselves to ignore

the enormity of it, lulling themselves and their patients into false security. Generation after generation has seen the light of day, each fixed in the idea of superiority over its predecessor, yet each passing on its nerve-destroying, genius-making, criminal-producing, insane-compelling spirochæta.

Nervous and mental diseases are on the increase. Some cite as a reason our ability to recognize conditions better than formerly. The fact, remains, nevertheless, that the evidences of "nervousness" abound at present. External conditions, acting on the individual, incite dormant pathological internal conditions to activity, resulting in the neurasthenics and *functional neurotics*.

The syphilic etiology of tabes dorsalis and paresis is now recognized by neurologists and internists, and by recent investigations[3] the syphilitic etiology of disease of the motor columns of the cord has been determined.

We are aware that syphilis may be acquired by an individual who is utterly unconscious of having the disease, the symptoms being so light as to escape notice. Such an individual conscientiously denies ever having been infected; and when nervous symptoms loom up, ten or twenty years later, a drag-net is placed to catch all possible causes, and we find that this individual has recently suffered the loss by death of a very near and dear relative, and three years before had an attack of typhoid fever, and the past twenty months has had an attack of "grippe"; that his paternal grandmother was "nervous," other grandparents were normal, his father was a minister, and his mother a pure woman, but both somewhat "nervous." In this instance, we would have similar heredity, infective diseases, emotional excitement, overwork, worry, and grief. We pull in our net and examine its contents; but we fail to scrutinize the net which has enmeshed all of these.

The hypothetical individual cited above goes through all of the neurasthenic symptoms prior to general paresis; and finally the symptoms develop from those of mere irritation into those indicative of actual tissue destruction—a general paretic, a syphilitic.

The present-day aim, from a scientific medical standpoint, is preventive medicine. We are constantly seeking methods of preventing disease, in order to improve the health of the people, that

they may increase their efficiency and propagate their kind free from constitutional defects and hereditary diseases. The following is of interest:

"The human babies born each year constitute the world's most valuable crop. Taking the population of the globe to be one and one-half billion, probably about 50 million children are born each year. In the continental United States, with over 90 million souls, probably two and one-half million children are born annually. The potentiality of these two and a half million annually can be conceived as beyond computation. But, for better or worse, this potentiality is far from being realized. Nearly half a million of these infants die before they attain the age of one year, and half of all are dead before they reach their 23d year.

"It is a reproach to our intelligence that we, as a people, proud in other respects of *our control of nature*, should have to support about half a million insane, feeble-minded, epileptic, blind and deaf; 80,000 prisoners; and 100,000 paupers, at a cost of over 100 million dollars per year. A new plague that rendered four per cent of our population, chiefly at the most productive age, not merely incompetent, but a burden costing 100 million dollars yearly to support, would instantly attract attention; but we have become so used to crime, disease, and degeneracy that we take them as necessary evils. That they were so, in the world's ignorance, is granted; that they must remain so, is denied."[4]

The plague rendering unfit so large a percentage of our population is, primarily, syphilis, with its associates, *alcohol* and poverty.

We can increase the potentiality of the race by lessening the number of deaths and increasing the efficiency of those living; and we can lessen the burden induced by our insane and criminals.

I wish to offer my theory regarding the etiology of nervous and mental diseases. In support of it, I offer some facts. I realize that the facts presented are not in sufficient array to prove conclusively my theory; otherwise, it would not any longer be a theory, but itself a fact. However, the material presented is suggestive, and is recorded as my preliminary evidence.

From our present knowledge of syphilis and of its various modes of gaining entrance to the economy, and its transmissibility to offspring to the second and third generations, and possibly to the fourth generation; and from the fact that it is recognized as one of the chief factors in physical, mental, and moral degeneracy; that it is often unrecognized and deliberately concealed; that many grave constitutional and organic conditions are produced by it, *e. g.*, tabes, general paresis, cerebrospinal syphilis, constitu-

tional lues, resulting in involvement of the motor columns of the cord; and that many of these diseases are directly transmissible—as is exemplified in our juvenile tabetics and paretics, multiple sclerosis, and progressive muscular atrophy—I feel that I am justified in giving expression to my belief that the disease we know as *neurasthenia is of syphilitic origin, either acquired or hereditary;* and that the conditions we know as migraine, exophthalmic goitre, dementia præcox, and even manic-depressive insanity, are of syphilitic origin.

Certain it is, that constitutional syphilis, cerebrospinal syphilis, tabes, and paresis are either accompanied or preceded by symptoms which are neurasthenic, and which, in fact, cannot be separated from the disease we have learned to call neurasthenia.

Oppenheim quotes one man [8] as stating that neurasthenia is due to syphilis and is curable by antiluetic treatment.

In presenting any theory, one must be prepared to suffer criticism of the keenest kind; and whether or not the theory becomes a self-evident fact depends upon the interest aroused by its statement, and upon the resulting investigations which add facts in its support or accumulate evidence to undermine it. Time will be the essence of my theory.

We all are cognizant of the controversy that existed over the etiology of paresis and tabes. Few, indeed, would say that the spirochæta is not responsible for these conditions.

I can well remember when syphilis was only suspected as a cause of our most terrible mental disease, paresis. Little by little, evidence came to light and revealed its true nature. It was stated that 80 per cent to 90 per cent of such cases were syphilitic, the balance being due to something else. Then someone made the statement that 99 per cent were syphilitic, and the other one per cent suspicious. Then came the discovery of the spirochæta pallida by Schaudinn, which was followed by the finding of the spirochæta pallida in the brains of paretics.[9]

The history of the development of the etiology of general paresis is especially interesting, from the fact that it exhibited practically the same state of affairs we are now enmeshed in as regards an etiology for our so-called " functional " neuroses and psychoses. Everything under the sun was blamed—from vague abstractions, such as heredity (here taking heredity as it is usually

connoted in the various text-books, a meaningless abstraction, without any consideration of its known principles), to emotional states, environmental conditions, masturbation, and the influences of various intoxications of external origin, and the infective diseases. These same things are cited as actual causes of a variety of so-called "functional" neuroses, and mental diseases.

Who among us can state for a *fact* that anyone of the causes usually given is the actual agent at work in any special case? There must be something besides emotional disturbances, mental exhaustion, overwork, loss of blood and lymph, sexual excesses, etc.

The internal conditions may be, and are, influenced by external conditions and psychical and emotional states; but not to a pathological degree, unless the internal conditions are rendered unfit by some undermining pathogenic agent.

Facts, and facts alone, count; and, until we learn to produce them, we shall continue in a state of doubt.

Most of us are prone to call a variety of symptoms referable to the nervous system, and not always typical and characteristic, as "neurasthenia." "Neurasthenia" is, indeed, a much-abused term, as is also "hysteria." Both are graveyards where are buried with satisfaction the ignorance of our present knowledge. Allow me to state at this point that the ghosts in these graveyards are most numerous and terrifying, and uncannily real. Our insane hospitals, our almshouses, our prisons are the meeting-places. Is it not significant that investigators are obtaining high percentages of positive Wassermanns in institutions for feeble-minded and in insane hospitals? A negative Wassermann is no reason for declaring that the individual is free from syphilitic taint, if other clinical evidences are present. Thousands of patients failing to give a positive Wassermann have other undoubted evidences of acquired or heredo-syphilis. *It is decidedly interesting, and certainly amazing, to note the similarity of symptoms in the various psychoses.* How intimately interwoven they are! We tend toward a simple classification at present, and are no longer perplexed by long mystifying tables of classification. We realize that insanity includes a host of different conditions, and we no longer think of a definite psychosis; but to quote "White,"[1] and are using such terms as "the dementia-paralytica group," "the manic-de-

pressive group," "the hysteria group." To further delve, we can find that our hysteria group, our manic-depressive group, etc., have symptoms in common with our dementia-paralytica group.

This is certainly more than suggestive. Why not *one* mental disease—one great group differing only in degree, the symptoms manifesting themselves in the various recognized types of psychoses according to the selective action of the etiological agent, the degree of its potency and the natural resistance of the individual aided by such therapeutic agents as are in vogue.

Ultimately, we shall reach this one-group classification based upon a rational etiology. My work among the juvenile delinquents is showing up the great preponderance of heredo-syphilis among this class of criminals, which includes, of course, all forms of crime, from simple pilfering to the graver offenses, including homicidal tendencies, and moral offences. My statistics on these cases will be exhibited in the near future.

The evidences I wish to present are as follows:

Clinical.—History of infection in patient or ancestors. Stigmata of syphilis, acquired and hereditary (*e. g.*, Hutchinson teeth, scaphoid scapulæ—Graves' work along this line is of great value), iritis and iridocyclitis, strabismus, optic neuritis—here accepting Dr. Hayward Thomas's new classification of the optic discs, which establishes a new pathological fundus and reveals the fact that many discs which we have heretofore considered normal are not normal but direct evidences of optic neuritis. This has been proven to my absolute satisfaction. One can positively see the changes as depicted in Dr. Thomas's classification. It is interesting to note here that Antonnelli [1] maintains that many of the ocular stigmata of heredo-syphilis have been wrongly described as varieties of the normal fundus.

Reflexes.—Under this head I will state that the value of the skin reflexes and tendon reflexes is made much over in actual destructive lesions of brain and of spinal cord; but little or no consideration is given to them in so-called functional nervous diseases. My observations lead me to treat with respect an exaggerated knee-kick in neurasthenia, or in those conditions evidencing symptoms we often unthinkingly call neurasthenia—a great, unnamed group, the patients who go to physician after physician saying they have something wrong but manifesting nothing

definite, who linger at the surgeon's doors, who are filled with pills and variegated diets, and whose ailment we call, for our mental relief, "neurasthenia," or "psychasthenia," or some other "thenia." An exaggerated knee-kick in these individuals means something. Also I maintain that an absent knee-kick is not normal, though a great many authors state that an absent knee-kick is normal in some individuals—one in 500. The normal responses of the various reflexes are pretty well established, and any deviation from the normal is not normal, and to me has its significance.

Color Fields.—I consider interlaced and sector-like contractions of the fields for color as an indication of syphilis. Our cases of actually known syphilis, acquired and hereditary, of the nervous system, show the characteristic color fields; similar color fields occurring in so-called functional diseases of the nervous system are to be taken as an evidence of syphilis, brain tumor, and intoxications.

Laboratory.—Wassermann tests of blood and spinal fluid. Luetic skin tests. Cell count of spinal fluid. I also consider leucocytosis of the blood as significant when the diseases in which it ordinarily occurs can be ruled out. To me hyper-leucocytosis in dementia præcox is decidedly significant.

Herewith is appended a chart exhibiting symptoms-diagnosis.

Diagnosis.	Number of cases.	Optic neuritis.	Contracted and interlaced color fields.	Scaphoid scapulæ.	Enlarged thyroid.	Positive Wassermann.	Negative Wassermann.	Acquired lues.	Hereditary lues.
Neurasthenia	151	151	36	70	27	24	7	38	75
Children manifesting neurasthenic symptoms	46	46	0	29	4	4	0	0	33
Manic-depressive insanity	27	27	14	21	8	8	8	2	20
Dementia præcox	6	6	3	6	6	4	2	1	5
Paranoia	4	4	2	3	2	2	1	2	2
Migraine	3	3	2	3	0	0	0	0	3
Mentally deficient children	41	..	..	30	..	18	23	..	41

Conclusions.

The assumption is that, when an individual presents a theory, such an individual has given considerable thought and time to his subject. In presenting the above idea concerning mental diseases in general, I have fully realized that many points in it are open to severe criticism; but I feel that I am justified in reaching my conclusions from the work done by Dr. Hayward Thomas and myself.

I realize that the statistics presented are as yet meagre; but they will be supplemented later by other statistics, which will include laboratory findings for each patient.

Decidedly suggestive is the fact that out of 151 adult neurasthenics, 151, or 100 per cent, showed optic neuritis, varying from mild to severe types; that $46\frac{54}{151}$ per cent showed scaphoid scapulæ; that 27, or $17\frac{38}{151}$ per cent, exhibited enlarged thyroid; that 38, or $25\frac{25}{151}$ per cent, admitted lues; and that 75, or $49\frac{101}{151}$ per cent, gave evidence of hereditary lues, either in stigmata present or in family history.

Of the children exhibiting neurasthenic symptoms, 46 in number, 33, or $71\frac{7}{23}$ per cent, either had evidences of hereditary lues or had parents who gave histories satisfactory to any careful clinician. These 46 children also had optic neuritis; and 29, or $63\frac{1}{23}$ per cent, had scaphoid scapulæ; 4, or $8\frac{16}{23}$ per cent, showed enlarged thyroid.

Concerning actual mental diseases classed as manic-depressive insanity and dementia præcox, I regret at this time that I am unable to present more cases. Of 27 manic-depressive cases, 27, or 100 per cent, showed optic neuritis; 14, or $51\frac{23}{27}$ per cent, showed characteristic color field; 21, or $77\frac{7}{9}$ per cent, showed scaphoid scapulæ; 8, or $29\frac{17}{27}$ per cent, exhibited enlarged thyroid.

The 41 mentally deficient children, mostly juvenile court cases, gave satisfactory clinical evidence of hereditary lues, either in signs or family history, for all; 18, or 43.97 per cent, gave positive Wassermann.

Great interest surrounds the three cases that undoubtedly were migraine. All 3, or 100 per cent, showed optic neuritis and scaphoid scapulæ; and all gave decidedly suggestive family histories.

The hysterical cases, 14 in number, gave 14, or 100 per cent, optic neuritis; 3, or 21⅜ per cent, scaphoid scapulæ; 2, or 14⅜ per cent, enlarged thyroid; 12 gave suggestive family histories.

The report on the Wassermann test is not complete for all cases presented, because, when this study was undertaken, laboratory facilities were not to be had at a reasonable rate for clinic patients. At the present time, this has been obviated; and in future, the report on the blood and on the spinal fluid will be given with all cases presented.

WASSERMANN REPORTS.

	Number made.	Positive.	Negative.
Neurasthenia	35	28	7
Manic-depressive insanity	16	8	8
Paranoia	3	2	1
Dementia præcox	6	4	2
Hysteria	8	5	3
Mentally deficient children	41	18	23

A number of my case histories are given under Dr. Thomas' article in this issue, for the reason that they are in conjunction with his charts of color fields.

REFERENCES.

1. Adams, Francis: The Works of Hippocrates.
2. Acknowledgment to Leading Text Books Nervous and Mental Diseases.
3. Spiller, Wm. G.: Journal of Nervous and Mental Diseases, September, 1912, Vol. XXXIX, No. 9.
4. Davenport, Chas. B.: Heredity in Relation to Eugenics.
5. Oppenheim, H.: Text Book of Nervous Diseases, Vol. II, page 1140.
6. The Occurrence of Syphilitic Organism in the Brain of Paresis. Journal of Nervous and Mental Diseases, March, 1913, Vol. XL, No. 3.
7. White, Wm. A.: Outline of Psychiatry, 4th Ed., 1913, page 16.
8. Marshall, C. F.: Syphilology and Venereal Diseases (Antonnelli quoted). 2d Ed., page 392.

THALAMIC GLIOSIS IN DEMENTIA PRÆCOX.

By MARY ELIZABETH MORSE, M.D.

(From the Laboratory of the Worcester State Hospital, Worcester State Hospital Series No. 25, 1915–2.)

Theoretically the thalamus offers a good field for investigation in dementia præcox. All sensory impulses except those of smell and possibly also of taste pass through it on their way to the cortex, and in addition it receives a contingent of impulses from the cerebellum. From it, on the other hand, fibers radiate to all parts of the cortex. A grave or extensive lesion of the thalamus would therefore in all probability alter or diminish the sensory data received by the cortex. In addition a central mechanism for the sympathetic is probably located in the vicinity of the third ventricle. It was the possibility of finding in the thalamus of dementia præcox cases a lesion demonstrable by ordinary histological methods, and one perhaps selective in its site, that prompted the present study.

There is considerable uncertainty as to the number of nuclei in the thalamus of the higher mammals, and as to the relations of these nuclei to various cortical areas. The differentiation of nuclei here is difficult, because they are not sharply separated from one another, and the cell type and arrangement in each are not strikingly distinctive. Subdivision, however, has been carried to a high point by Cècile Vogt[1] from the myelo-architectural, and by Friedmann[2] from the cyto-architectural standpoint. The former author distinguishes 41 fields in the monkey thalamus, and the results of Friedmann agree essentially with hers.

The chief nuclei, which are recognized almost universally, are the anterior; the median, with its posterior expansion, the pulvinar; the lateral group, which is composed of an upper part, the lateral nucleus proper, and a lower part, the ventral nucleus (sensory nucleus of Cajal); the ganglion habenulæ, and lastly the central gray matter surrounding the third ventricle. The cells of these

[1] Jour. f. Psych. u. Neur., Bd. XII, 285, 1908.
[2] Jour. f. Psych. u. Neur., Bd. XVIII, 309, 1911.

nuclei are sufficiently characteristic in form and grouping for the identification of these areas in a broad way. The lateral and median geniculate bodies are continuous with the thalamus and should be considered as a part of it.

From a phylogenetic standpoint[3] the chief part of the ventral nucleus, together with the ganglion habenulæ, are the oldest parts of the thalamus. They are present in fishes and are well developed in reptiles and birds. The anterior and median nuclei are also of pale-encephalic origin, and in the lower vertebrates are connected almost exclusively with the corpus striatum. The high development of the pulvinar, on the other hand, is characteristic of the primates. With the evolution of the neopallium, the paleothalamic nuclei have acquired connections with the forebrain, with a corresponding increase in complexity and the resulting development of the neothalamus.

All sensory paths entering the thalamus (excluding for the moment the geniculate bodies) end in the ventral nucleus. The chief of these tracts are the main fillet, most of the fibers of which arise in the nuclei of the columns of Goll and Burdach; the spinothalamic tract, the central tract of the cranial nerves, derived from the sensory nuclei of the afferent cranial nerves, and lastly the central tract of the trigeminus. These tracts without doubt carry the kinesthetic, thermal, tactile and pain impulses from the extremities, trunk, head and viscera. In addition, the ventral nucleus receives fibers from the dentate nucleus of the cerebellum, via the superior peduncle, and with these are combined also fibers from red nucleus. The geniculate bodies are continuous with the posterior part of the thalamus. The lateral receives fibers from the optic tract; the median is the end station of many of the fibers of the secondary acoustic path.

The connections of the thalamic nuclei with various cortical regions have recently been studied by Sachs[4] in the cat and monkey by the production of electrolytic lesions, and by Mingazzini[5] from the standpoint of human pathology. Sachs' conclusions are that functionally the thalamus is made up of two relatively independent divisions. The inner, which consists of the

[3] See Edinger. Bau der Nervösen Zentralorgane, 1911.
[4] Brain, XXXII, p. 95, 1909.
[5] Folia neurobiolog., VII, Nos. 1 and 2, Jan. and Feb., 1913.

anterior and median nuclei, is in association with the caudate nucleus and rhinencephalon, and, in the cat and monkey, sends no fibers to the cortex. The outer division, which is represented by the ventral and lateral nuclei, is closely connected with the pre- and postcentral cortices, the fibers to the precentral being more numerous than those to the postcentral, and differing from them also morphologically.

Mingazzini,[5] from a study of the atrophy of the thalamus following atrophy of the occipital, parietal and the posterior half of the temporal lobes, concludes as follows: The median nucleus is connected with the prefrontal gyri; the anterior part of the ventral nucleus with the operculum and the anterior part of the precentral convolution; the lateral nucleus with the second parietal, the precentral and the supramarginal and angular gyri; the proximal half of the anterior nucleus with the prefrontal region, the distal half with the paracentral lobule.

The groups of cells on the sides and floor of the third ventricle appear to be the site of a central apparatus for the sympathetic. Karplus and Kreidl[6] conclude from their recent experiments on monkeys and carnivora that there is a central mechanism for the cervical sympathetic situated chiefly in the hypothalamus. This center is interposed in the path from the frontal region to the cervical sympathetic and mediates the pupillary reflex in response to painful stimuli.

In a case of focal lesion in the region of the ventral part of the thalamus Schrottenbach[7] has demonstrated by the plethysmographic method loss of the vasomotor reactions accompanying psychic reactions. He believes that this center forms a link between the central processes and the peripheral sympathetic innervation, and that it mediates the vasomotor reactions accompanying psychic states.

Selection of Material.—From the autopsy material of the Worcester State Hospital was collected a series of ten cases of dementia præcox who had died sufficiently young to exclude ordinary senile and arteriosclerotic changes in the brain, and

[5] Folia neurobiolog., VII, Nos. 1 and 2, Jan. and Feb., 1913.

[6] Pflügar's Arch. f. Physiol., Bd. 135, 401, 1910.

[7] Zeitsch. f. d. ges. Neurologie. u. Psychiatre, Orig. XXIII, H. 4/5, 431, 1914.

from causes which would not produce confusing nervous lesions. A control series of seven cases of approximately the same ages was prepared, this consisting of two cases of depressions of the involutional period, two of epilepsy, and one each of manic depressive, imbecility, and chronic alcoholism with delirium tremens. Two cases of cerebral arteriosclerosis and one each of senile dementia and senile deterioration in manic-depressive insanity were added, merely to estimate the degree of gliosis to be expected in these conditions.

Technical Methods.—The brains had been preserved in formalin for periods varying from one month to three years. The hemispheres had been separated, and the pons and cerebellum removed by cutting the cerebral peduncles. A rectangular block of tissue was cut from each hemisphere, passing anteriorly through the anterior commissure, posteriorly just behind the pulvinar, and above along the under surface of the corpus callosum. Below, the block included the hypothalamus, corpora quadrigemina and the cerebral peduncles. Each large block was then cut in the frontal plane into four segments, which were hardened in alcohol and embedded in paraffin. Two sections were cut from the anterior surface of each block; one was stained with thionin to bring out the cells, while the other was put for 24 hours in Zenker's fluid and stained by Mallory's phosphotungstic-acid-hematoxylin method for neuroglia. A series of four sections was thus obtained from each side of the thalamus, passing through approximately the same plane on both sides, and comparable planes in the different thalami. The first section passed anterior to the thalamus through the lenticular and the head of the caudate nuclei. The second passed through the anterior nucleus, and the most anterior parts of the median, lateral and ventral nuclei; the third through the centers of the median, lateral and ventral nuclei; the fourth through the pulvinar and the anterior corpora quadrigemina.

There were available for study in connection with the thalami routine sections from six cortical areas, the cerebellum, medulla, and three levels of the cord, stained by the Nissl and Weigert methods and by Mallory's neuroglia stain.

Cases.—Brief abstracts of the clinical histories and of the microscopic examination of the thalamus and other parts of the central nervous system are as follows:

CASE I (autopsy No. XV-68).—A case of the paranoid form of dementia præcox of 19 years' duration in a woman æt. 57. Father alcoholic. Two nieces insane. One of patient's children is dull. Psychosis began gradually at 36 years and was evidenced by unreasonable miserliness and erratic conduct in business relations.

Hospital residence 9 years.

On admission patient was quiet, oriented, and docile. Grasp on surroundings and memory for recent and remote events poor. She apparently reacted to hallucinations; had vague ideas of influence through mesmerism and was suspicious. Talked in an incoherent, senseless way. No insight. Physical examination negative.

During her hospital stay patient showed a slowly advancing deterioration, with auditory and visual hallucinations and ideas of reference and persecution. Died of dysentery.

The brain showed a mild cortical atrophy with slight increase of density to palpation in the frontal and superior precentral zones. Microscopically, slight focal losses of pyramidal cells, moderate zonal gliosis of hippocampal cortex, and focal gliosis of the frontal cortex.

Thalamus.—No abnormalities noted in the gross. The cells stain well; are heavily pigmented. No satellitosis. Very small amounts of green perivascular pigment. The vessel walls are not remarkable. Sections stained for neuroglia show a moderately heavy superficial layer, with penetration inward in a few places, but without active cells. Considerable perivascular gliosis throughout the thalamus. No foci of gliosis.

Lateral and Median Geniculate Bodies.—The cells are normal and there is no gliosis.

Hypothalamus.—Gliosis of the same degree and distribution as in thalamus.

Lenticular and Caudate Nuclei.—Slight perivascular gliosis; otherwise negative.

CASE II (autopsy XV-74).—A case of catatonic hirntod after an illness of eight days in a woman 22 years old. This case has been reported by Orton.[1] The brain showed chromatolysis of the pyramidal cells in the various cortices, particularly marked in the Betz cells; amœboid glia cells, and large accumulations of lipoid substances in the subcortical white matter, ganglion cells, glia cells, and the phagocytes of the perivascular spaces. No fibrillar gliosis.

Thalamus.—Not remarkable macroscopically. The nerve cells throughout the thalamus are blurred, stain faintly, show chromatolysis, and contain small amounts of green pigment. Many are surrounded by five or six satellites, some of which suggest neurophages. A small amount of green perivascular pigment is present (less than in cortex). There is apparently an increase of glia nuclei about the vessels. As the technical method was not adapted to bringing out the amœboid character of the glia cells or the

[1] AM. JOUR. OF INSAN., LXIX, No. 4, April, 1913.

lipoid deposits in the white matter, no definite statement can be made about them, but they are probably present. No fibrillar gliosis.

Lateral and Median Geniculate Bodies.—The cells stain better than in the thalamus and there is no undue satellitosis.

Hypothalamus.—Conditions as in thalamus.

Caudate and Lenticular Nuclei.—The cells stain as in the thalamus, but there is no satellitosis.

CASE III (autopsy No. XV-79).—A case of catatonic dementia præcox of at least four years' duration in a man 41 years old. Mother was feeble-minded in latter part of her life. An uncle and a sister of patient are in insane hospitals. Patient was always peculiar. At 37 years he had an outbreak of impulsive violence, for which he was committed to an insane hospital. Made a partial recovery, but was committed to Worcester State Hospital a year later. On admission patient was quiet and orderly; oriented with a fair grasp on surroundings. Memory for recent events impaired, for remote events good. Talked in rambling, disconnected sentences. Poor judgment. No insight. Physical examination—left pupil larger than right, both react to light and accommodation. Right knee kick greater than left.

For the first two years of his stay patient was quiet and industrious. He then had a period of excitement characterized by destructiveness, restlessness and exhilaration. Said he "felt ossified and suspended from the earth." Died of septicemia. Autopsy showed, in addition, old infarcts of the kidneys and chronic otitis media; in the brain slight leptomeningitis, subpial edema, and granulations on the floor of the fourth ventricle. Microscopically, satellitosis, possible cell losses in postcentral and temporal cortices, a focus of atrophy with gliosis in the frontal region, hyaline in the vessel walls of the occipital cortex and atrophy of a cerebellar lamella. Practically no subpial gliosis.

Thalamus.—Not notable macroscopically. The nerve cells stain normally, and there is no satellitosis. The superficial glia is much thickened and in places radiates inward, accompanied by rather numerous glia cells. In these areas there is some perivascular gliosis. In the outer part of the right ventral nucleus in about its central portion antero-posteriorly, is a focus 2.5 mm. in diameter in the stained specimen, in which there is a loss of nerve cells. This area surrounds a group of vessels, the walls of which, however, show no evident change. There is a suggestion of alteration of the myelin sheaths. The focus is filled in with loose-meshed glia, containing rather numerous nuclei and some phagocytes. The anilin blue stain shows no increase of collagen fibers in this area.

Lateral and Median Geniculate Bodies.—Negative.

Hypothalamus.—Superficial gliosis as over thalamus.

Lenticular Nuclei.—Nerve cells not remarkable. No gliosis. A perivascular lymphocytic infiltration in a few places.

CASE IV (autopsy No. XVII-39).—A case of late catatonia of five years' duration in a 52-year-old woman. Psychosis began with a period of

confusion, destructiveness and depression. Patient expressed the idea that she was "dead and buried."

Hospital Residence.—Four and a half years. On admission patient was resistive, apprehensive, disoriented, and without insight. Answers were irrelevant and trifling. Physical examination not significant. She had a period of excitement and destructiveness six months after admission, but the rest of the time she was apathetic. Was resistive and at times mute. Hallucinations of sight and hearing. Increasing dementia. Death from pernicious anemia.

The central nervous system showed encephalitic foci in precentral cortex and in cervical and lumbar cords; satellitosis; moderate subpial and subcortical gliosis and gliosis in Goll's columns.

Thalamus.—Normal macroscopically. The nerve cells stain well and there is no undue satellitosis. Small amount of green perivascular pigment. The subependymal glia forms a very broad fibrillar layer in which are numerous fibril-forming cells. The median nucleus contains numerous large vesicular glia nuclei and some strands of fibrils. Perivascular gliosis is prominent near the surface. No gliosis in other nuclei. Comparison of the thalamus with neopallial cortices, ventricular surface of the hippocampus, and the medulla shows that the superficial glia is far heavier in the former than in any of the other situations and that active glia cells are not present in notable numbers elsewhere.

Lateral and Median Geniculate Bodies.—Not remarkable.

Hypothalamus.—The superficial glia is equally as heavy as over thalamus, and fibril-forming cells are numerous in the underlying tissue.

Lenticular and Caudate Nuclei.—No gliosis.

Case V (autopsy No. XVII-43).—A Finn woman, æt. 34. Psychosis began gradually 10 months before admission with auditory hallucinations and ideas of persecution. On admission patient was quiet, imperfectly oriented and without insight. During her stay she was resistive, and noisy by crying and talking. Death three and a half months after admission from tubercular enteritis.

The brain showed a satellite reaction and small amounts of perivascular pigment. Practically no gliosis.

Thalamus.—No gross abnormality. Microscopically there is a decided suggestion of a scarcity of nerve cells in the ventral and lateral nuclei. The cells are heavily pigmented. No satellitosis. The glial surface mat is in general delicate, but in a few places it dips into the stratum zonale, and is then accompanied by perivascular gliosis. No deep foci of gliosis.

Lateral and Median Geniculate Bodies.—Not remarkable.

Hypothalamus.—The superficial glia is rather thicker than over the thalamus and a few fibril-forming cells are present on the ventricular floor.

Caudate and Lenticular Nuclei.—Not remarkable.

Case VI (autopsy No. XIII-3).—A case of three years' duration, probably belonging to the paraphrenic group, in a woman of 44. Father peculiar and two paternal cousins were cases of dementia præcox. Patient was

always eccentric; was seclusive and parsimonious. At 41 years she began to act strangely; was found on a relative's doorstep in a snowstorm at midnight, etc. Gave no explanation. Was irritable, and had outbreaks of impulsive violence. Increasing dementia. On admission patient was quiet and indifferent. Comprehended questions with difficulty and answered slowly and evasively with monotonous reiteration. Orientation and memory good; grasp on surroundings poor. No evidence of hallucinations. Physical examination showed facial tic and internal strabismus. Coarse tremor of tongue. Death four months after admission from lobar pneumonia.

The brain presented a slight chronic leptomeningitis, slight subpial edema, and a rather marked increase in density to palpation of the convolutions bordering on the central fissures, and of the upper portions of the frontal fields, including chiefly pre- and postcentral and intermediate precentral fields. Microscopically, mild degenerative changes in the cortical nerve cells, satellitosis, perivascular pigment; very slight subpial gliosis, but considerable subcortical gliosis in postcentral, frontal and hippocampal areas.

Thalamus.—Both thalami give a rather marked suggestion of induration. In both there is a suggestion of nodular induration behind and on a level with the gray commissure. On the right this nodule forms a definite mass; on the left it is considerably less prominent. The whole of the posterior surface of both thalami has a wrinkled appearance suggesting atrophy.

The left thalamus was unfortunately spoiled during the technical routine. Sections of the right show a large focus of gliosis, the central part of which corresponds in position to the lamina medullaris interna. This area extends mesially to the midline; laterally it radiates into the ventral nucleus, and posteriorly sends a network of broad bands into the pulvinar. Microscopical examination shows that it is chiefly the median and ventral nuclei and the pulvinar which are encroached upon by the focus. The anterior nucleus is relatively free from gliosis, as is also the anterior part of the median. The lateral nucleus is narrowed by an ingrowth of glia from the internal capsule. The entire posterior part of the thalamus presents a dense fibrillar gliosis. The large gliotic focus is composed of a close network of fibrils containing numerous nuclei, which in the denser portions are small and pyknotic; in the looser areas, large and vesicular. Hyaloid droplets are present. The vessels show a marked perivascular gliosis and moderate numbers of lymphocytes in the perivascular spaces. The vessel walls are not thickened. A thick layer of fibrillar glia covers the ventricular surface and sends prolongations inward, some of which join the large focus. There is a remarkably good representation of nerve cells in the various nuclei, considering the degree of gliosis. The cells are fairly fell preserved; contain considerable lipochrome, and are usually surrounded by small numbers of satellites.

Lateral Geniculate Body.—Not remarkable except for heavy superficial glia. Median geniculate body negative.

Hypothalamus.—The superficial glia is thick and numerous active cells are present beneath the surface. Radiations from the gliotic area in the pulvinar extend to a slight extent into the hypothalamus.

Lenticular Nucleus.—Quite a pronounced fibrillar gliosis accompanying the strands of nerve fibers, but not elsewhere.

Caudate Nucleus.—The superficial glia is dense and shows slight focal thickenings. One large radiating perivascular focus of fibrillar glia, with active cells at its periphery, is present. No other gliosis in section.

CASE VII (autopsy No. XIII-10).—A case of paranoid dementia præcox of six years' duration in a 45-year-old man. Family history and patient's early history not remarkable. At 39 years he had a fever resembling typhoid, and was never mentally well afterward. Became irritable, lost affection for family, and developed an elaborate system of delusions of persecution by hypnotism.

Hospital residence four years.

On admission patient was intelligent in appearance, but was suspicious, irritable and reticent. Orientation and memory were good, but grasp on surroundings was superficial and insight absent. Patient stated that he was followed by a man, whom he had seen and heard, who was able by hypnotism to throw parts of his body into patient. All patient's movements, thoughts and words were a duplicate of his persecutor's. Itching, tickling, and painful sensations, of which the patient complained continuously, were the methods of torture, the object of which was to drive him insane. Physical examination on admission negative. No Wassermann reaction done. During his residence patient was controlled by his delusions, and showed a slowly progressing deterioration. Sudden death due to aneurysmal dilatation of the left ventricle.

The brain presented slight atrophy at the frontal poles and an increase of density of the pre- and postcentral gyri. Microscopic examination showed a mild satellitosis and small perivascular deposits of pigment; practically no increase of glia over the neopallial cortices or the ventricular surface of the hippocampus; a slight increase of glia in the white matter of the cerebellum, a moderate thickening on the floor of the fourth ventricle; a marked fibrillar gliosis in the posterior columns of the cord and a lesser gliosis in the lateral columns.

Thalamus.—No gross atrophy. Microscopically, the nerve cells are in good condition and there is no undue satellitosis. Small amounts of pigment in the perivascular spaces. The ventricular surface is covered with a heavy layer of fibrillar glia, and the median nuclei contain very numerous large glia cells, the fibrils of which form a prominent network throughout the nuclei. The glia cells are scattered diffusely, but there are also foci in the centers of the nuclei, in which they are more closely set. These areas are visible macroscopically. Perivascular gliosis is also marked throughout the median nuclei. A similar active gliosis is present in the pulvinar. The ventral and lateral nuclei show no gliosis.

Hypothalamus.—There is a marked fibrillar gliosis about the floor of the third ventricle, radiating for some distance inward, and containing numerous active cells.

Lateral and Median Geniculate Bodies.—Not remarkable.

Caudate and Lenticular Nuclei.—The cells are not remarkable, and there is no gliosis.

CASE VIII (autopsy No. XIII-46).—A case of catatonic dementia præcox of six months' duration in a girl of 17. One maternal cousin was epileptic and another insane. Patient went half way through high school and was a bright scholar. Was always very nervous, stubborn and "hysterical." She became wayward, acquired syphilis, and was sent to an industrial school. The psychosis began acutely six months before admission with a period of confusion and destructiveness, accompanied by auditory and olfactory hallucinations. During the first part of her hospital stay she was confused, often mute, and at times showed a tendency to cerea flexibilitas. Later she was quiet, inactive, and silly in manner. She showed secondary syphilitic lesions. The serum gave a positive Wassermann reaction, the cerebrospinal fluid a suggestion of a positive reaction, but no pleocytosis or increase of globulin. Patient tolerated mercury and iodide badly, and grew progressively weaker. Autopsy showed an enteritis and gastritis, acute nephritis, and atrophy of the ovaries. Microscopically, fatty infiltration of the myocardium and liver, and necrosis of the splenic follicles.

Brain.—The paracentral and marginal gyri on the left were very broad, were simple in arrangement, and not well approximated. The nerve cells in the various cortical areas showed mild degenerative changes. There were lipoid accumulations in the nerve cells and perivascular spaces, and a slight satellite reaction. No gliosis.

Thalamus.—Is of normal contour. The nerve cells stain well as a rule, although there are a few shadows. The cells contain considerable lipochrome. A marked satellite reaction is present, some of the cells having the appearance of neurophages. A suggestion of a cell body is seen about some of the glia nuclei surrounding the vessels. No gliosis.

Lateral and Median Geniculate Bodies.—Show a slight satellitosis.

Hypothalamus.—Conditions as in thalamus.

Lenticular and Caudate Nuclei.—Some of the cells show a satellite reaction, but this is not as general or as marked as in the thalamus.

CASE IX (autopsy No. XIV-7).—A case of paranoid dementia præcox of one year's duration in a man 29 years of age. Father was intemperate. Patient always showed some eccentricities of conduct. Psychosis began gradually with visual hallucinations and ideas of reference and persecution.

On admission patient was tractable and responded promptly and relevantly. Was oriented, but without insight. Marked cyanosis of the hands and dermatographia. During his stay patient showed steady mental failure; was defiant and violent in response to somatic sensations ("shivering all over" and "can't breathe"), suspicious of poisoning, and finally refused food altogether on account of religious delusions. Tube-feeding was necessary for three months before death, which was due to abscesses of the lung.

Macroscopically the brain showed a slight general atrophy, and subpial edema; microscopically, a moderate satellite reaction and a mild fibrillar

gliosis on the ventricular surface of the hippocampus, the floor of the fourth ventricle, and in the white matter of the cerebellum.

Thalamus.—No gross abnormality. Microscopically, the cells are well preserved. A mild satellite reaction is present, which is more prominent in the pulvinar than in the other nuclei. The superficial glia is very slightly thickened and in a few places dips into the underlying tissue, accompanied by a few active cells, and slight perivascular gliosis.

Hypothalamus.—A slight thickening of the superficial glia as over the thalamus.

Lateral and Median Geniculate Bodies.—The former is negative; the latter shows a mild satellitosis.

Caudate and Lenticular Nuclei.—Not remarkable.

Case X (autopsy No. XIV-27).—Dementia præcox of three years' duration in a 40-year-old Irish woman. Waitress. Father was alcoholic. At 37 years patient gave up work on account of somatic delusions. She was arrested for vagrancy, but after examination was sent to an insane hospital. During her stay at the Worcester State Hospital patient was apathetic, contented and neat, volunteered no conversation, but answered relevantly and coherently. Orientation, memory and grasp on education were good. No delusions were elicited, but hallucinations of sight and hearing were probably present. No insight. Physical examination was not remarkable, and the Wassermann reaction on serum and cerebrospinal fluid was negative. Patient died following an operation for carcinoma of the sigmoid.

The cerebral convolutions were well filled out. The entire region anterior to the percentral gyri gave a suggestion of increased firmness. Microscopically, the nerve cells in the various cortices showed mild degenerative changes. Satellitosis in the deeper layers. The perivascular spaces were dilated and contained scattered lymphocytes and pigmented phagocytes. The subpial glia was not increased, but there was a moderate fibrous gliosis in the central core of the cerebellum.

Thalamus.—Was not large in the gross, and appeared somewhat firm. Nerve cells are present in good numbers and stain well. The majority of them are surrounded by satellites, some of which have the appearance of neurophages. There is a considerable lymphocytosis, accompanied by the deposition of pigment, about one of the vessels in the pulvinar. The subependymal glia over the anterior part of the thalamus is not especially increased, but over the pulvinar it is thick. Beneath the surface of the median nuclei are small numbers of active glia cells and also a perivascular gliosis. No active gliosis about the gray commissure. There is a heavy perivascular gliosis throughout the pulvinar and in most places an increase of glia nuclei with a network of fibrils. In the lower part of the right ventral nucleus is an area containing considerable numbers of active glia cells and a prominent fibrillar network. Nerve cells are present in this area, however, in apparently normal numbers and distribution.

Hypothalamus.—Satellitosis is more marked than in the thalamus, and a few shrunken, opaque, darkly staining nerve cells with excentric nuclei

are present. The superficial glia is increased, and there are a few active glia cells beneath the ventricular floor.

Lateral Geniculate Bodies.—Show nothing notable.

Median Geniculate Bodies.—Satellitosis of the same degree as in thalamus.

Caudate and Lenticular Nuclei.—Show a satellite reaction resembling that in the thalamus. The subependymal glia is heavy and there is some perivascular gliosis near the surface.

The findings in the control cases may be summarized in a few words:

1 (autopsy No. XVII-49). A case of manic-depressive insanity in a woman of 41 years; a single attack of the depressed phase lasting five years. Death from acute colitis.

The brain showed a slight satellitosis, a slight perivascular pigmentation, and an absence of gliosis.

Thalamus.—Not notable macroscopically. The nerve cells stain normally and there is no undue satellitosis. No perivascular pigment. The superficial glia over the anterior part of the thalamus is delicate; over the pulvinar it is somewhat heavier, and there are a few fiber-forming cells beneath the surface.

Lateral and Median Geniculate Bodies.—Not remarkable.

Hypothalamus.—The superficial glia is slightly thicker than over the thalamus and a few fibril-forming cells are present.

Caudate and Lenticular Nuclei.—Not remarkable.

2 (autopsy No. XVI-40). A depression of the involutional period, of 18 months' duration, in a woman 54 years old. Symptoms of central neuritis for two weeks before death.

Autopsy showed chronic endocarditis, chronic nephritis, cortical atrophy and increase of density in frontal and central gyri. Microscopically the axonal reaction in the giant pyramids of the precentral cortex, prominent satellitosis in the various cortices, great numbers of hyaloid droplets; no gliosis in the cerebrum, but a peripheral gliosis in medulla and cord.

Thalamus.—Not remarkable macroscopically. The nerve cells contain large amounts of lipochrome, but are otherwise not remarkable except in the pulvinar where there are a few cell shadows and a slight satellitosis. The glia over the anterior and median parts of the thalamus is not increased, but over the pulvinar it shows focal thickening with slight extension inward, but with very few cells. Considerable perivascular pigment.

Geniculate Bodies.—Not remarkable.

Hypothalamus.—The cells resemble the thalamus. The glial mat bordering the lower part of the third ventricle is thicker than over the thalamus, but does not radiate inward.

Lenticular and Caudate Nuclei.—Pigmented satellites are fairly numerous. No gliosis.

3 (autopsy No. XVII-68). An unclassified psychosis of the involutional period in a woman of 50 years. Onset at 47 years with worry, agitation,

and ideas of reference and persecution. Patient cleared up somewhat after a few months, but later lapsed into a mute, confused and agitated condition. Death from acute colitis.

Microscopically the brain showed normal cortical architecture, small amounts of green perivascular pigment, slight zonal gliosis, and an absence of arteriosclerosis.

Thalamus.—Normal macroscopically. The nerve cells contain considerable lipochrome, but otherwise appear normal. A number of vessels in both thalamus and hypothalamus are surrounded by lymphocytes. Green perivascular pigment is present in moderate amount. The subependymal glia over both the thalamus and hypothalamus is slightly thickened, but does not extend inward, and there are no deep foci. Slight perivascular gliosis particularly near the ventricular surface.

Lenticular and Caudate Nuclei.—Not remarkable except for lipochrome content of nerve cells.

4 (autopsy No. XVI-1). A low-grade imbecile, dying at 40 years from chronic nephritis. The brain showed lack of approximation of the frontal convolutions, thickening of the pia, and small foci of disintegration in frontal cortex, medulla and cerebellum, increase of subependymal glia over the hippocampus and a perivascular focus of gliosis in the medulla.

Thalamus.—Negative macroscopically. The nerve cells are heavily pigmented, but are otherwise not notable. No satellitosis. No increase of glia, either superficial or deep.

Geniculate bodies, hypothalamus, and caudate and lenticular nuclei are not remarkable.

5 (autopsy No. XVII-33). A case of delirium tremens in a chronic alcoholic 42 years old. The gross autopsy findings were cardiac hypertrophy and dilatation, infarct of the lung, and subpial edema. The brain showed degenerative changes in the cortical nerve cells, marked satellitosis, and practically no gliosis.

Thalamus.—Macroscopically not notable. Most of the nerve cells appear normal; a few are shrunken and angular and stain deeply. Clusters of four to five satellites are found about some of the nerve cells, but on the whole satellitosis is not prominent. There is a rather dense glial network on the ventricular surface, but no deep foci or active cells.

6 (autopsy No. XVI-46). A much demented epileptic woman, aet. 42, dying of acute colitis. Brain weighed 1210 gms., and showed no gross atrophy and no increase of consistence in any particular region. Microscopically the cortex in many places gave the impression of being thin, but there was no obvious scarcity of nerve cells. A mild satellitosis was present, and a slight peripheral gliosis in medulla and cord.

Thalamus.—The nerve cells contain much lipochrome, but otherwise stain well. The subependymal glia is moderately thickened, and is prolonged inward for a short distance along the vessels, but there are no active cells, and no deep gliosis.

Geniculate bodies.—Not remarkable.

Hypothalamus.—Peripheral gliosis as over thalamus.

Caudate and Lenticular Nuclei.—A superficial gliosis over the head of the caudate, but no deep foci.

7 (autopsy No. XIII-50). A case of epilepsy of three years' duration in a man 34 years old. Death in status epilepticus. The brain showed degenerative changes in the nerve cells, intense satellite reaction with the presence of neurophages, amœboid glia cells about the vessels, collections of lipoid materials around the vessels and in nerve cells, and a marked fibro-cellular gliosis in the cornu ammonis.

Thalamus.—Not notable macroscopically. Changes in nerve cells and satellitosis resemble those in cortex, but are rather less intense. Amœboid glia cells are present. Lipoid deposits are less prominent than in cortex. The glia over the thalamus is in general not thickened, but in a few places accompanies the vessels inward.

Geniculate Bodies.—The cells of the median resemble those of the thalamus; those of the lateral are free from satellites and stain normally.

Hypothalamus.—The superficial glia is very heavy, and numerous active cells are present beneath the surface.

Caudate and Lenticular Nuclei.—The cells stain well, but a marked satellitosis is present. The glia over the head of the caudate nucleus is much thickened, but does not radiate inward to any extent. No gliosis in the lenticular nucleus.

Arteriosclerotic and senile cases:

8 (autopsy No. XIII-6). A man, 61 years old. Symptoms dating back nine years. Major anatomical diagnoses were bilateral acute otitis media and coronary sclerosis. The cortex showed thickening of the small arteries, moderate perivascular cell losses, heavy lipochrome content of nerve cells, zonal gliosis, and foci of softening in the right postcentral convolution.

Thalamus.—Not remarkable macroscopically. The nerve cells contain much lipochrome. The arteries are markedly sclerotic. There is an extremely heavy layer of fibrillar glia over the ventricular surface, including the head of the caudate nucleus, the thalamus, and hypothalamus. Moderate numbers of glia cells with coarse fibrils are situated at short distances below the surface, and there is considerable perivascular gliosis throughout the structures. No focal gliosis.

Geniculate Bodies.—Not notable.

9 (autopsy No. XIII-28). A case of cerebral arteriosclerosis of three years' duration in a woman 60 years old. Cysts of softening in both temporal regions. Microscopically the brain showed thickening of the small arteries, with perivascular devastations, heavy lipochrome deposits in nerve and neuroglia cells, and very moderate zonal and perivascular gliosis.

Thalamus.—At the upper pole of the left anterior nucleus is a focus of softening surrounding several almost obliterated vessels. The area is filled with granule cells, but shows no surrounding glia reaction. The subependymal glia is very heavy and extends deeply inward. There is a marked perivascular gliosis and some increase of small glia nuclei throughout the thalamus. The gliosis, however, is not active and there are no deep foci. Miliary hemorrhages on floor of third ventricle.

Caudate and Lenticular Nuclei and Hypothalamus.—Gliosis as in thalamus.

Geniculate Bodies.—Negative.

10 (autopsy No. XIV-33). Senile deterioration in a case of manic-depressive insanity—a woman, 78 years old, dying of chronic nephritis. Brain showed very marked atrophy in the frontal, central and parietal regions. The most prominent microscopic changes were satellitosis, perivascular accumulations of lipoid pigment and heavy subpial gliosis. Arteriosclerosis was slight and no senile placques were found.

Thalamus.—The nerve cells stain well. Mild satellitosis. Very little arteriosclerosis. There is in places considerable perivascular infiltration of lymphocytes, polymorphonuclear leukocytes and pigmented phagocytes. There is marked thickening of glia about the sides and floor of the third ventricle and moderate perivascular gliosis throughout the thalamus.

Caudate and Lenticular Nuclei.—Satellitosis and perivascular infiltration as above. Gliosis about some of the large arteries in the lenticular nuclei. Small numbers of active glia cells near the ventricular surface, but no thickening of the peripheral glia layer.

Hypothalamus.—Shows thickening of the superficial glia, but no deep foci.

11 (autopsy No. XIV-35). A case of senile dementia of six years' duration in a woman 76 years old. Death from lobar pneumonia. The brain showed cell losses in the cortex, senile placques, zonal and cortical gliosis, and moderate arteriosclerosis.

Thalamus.—The nerve cells are heavily pigmented, but are otherwise not remarkable. Mild satellite reaction in the pulvinar. Over the anterior and middle parts of the thalamus the glia is moderately heavy. There are fairly numerous large, active glia cells in the various nuclei, and much perivascular gliosis. The pulvinar shows a marked gliosis, consisting of a very heavy superficial layer, and numerous active cells throughout the tissue.

Caudate and Lenticular Nuclei.—Heavy superficial glia and considerable perivascular gliosis.

Hypothalamus.—More subependymal gliosis than over thalamus. Very numerous active glia cells about the floor of the third ventricle.

Geniculate Bodies.—Negative.

Summarizing the findings in the two series:

Dementia Præcox Cases.—In case I, gliosis is present in the thalamus, but is not limited to it, being found also in the subpial layer over the cerebrum.

In cases II and VIII the changes in the nerve cells of the thalamus are similar to those in the various cortices, and there is no gliosis in the thalamus or other parts of the central nervous system examined.

In case III the thalamic focal lesion is not an isolated one, as similar, though smaller, areas are present in the frontal region and cerebellum. This fact, however, would not necessarily detract from the importance of the thalamic lesion. The degree of superficial gliosis found in the thalamus is not duplicated in the other regions examined.

Case IV shows a superficial gliosis in the thalamus which is more advanced and more active than in other parts of the nervous system examined.

In case V no lesions were noted in the thalamus.

The thalamus of case VI is the site of an extensive and advanced gliosis which is sufficient to cause a macroscopic atrophy. The lesion is old and inactive. A gliosis is present to a lesser degree in adjacent structures, *i. e.*, the hypothalamus, internal capsule and basal ganglia. A subcortical gliosis is found in the postcentral, frontal and hippocampal areas, but does not at all approximate the degree found in the thalamus.

Case VII shows a thickening of the superficial glia and an active gliosis beneath the surface. A fibrillar gliosis is present in the posterior columns of the cord and a moderate gliosis on the floor of the fourth ventricle, but in neither of these locations has the gliosis the active character found in the thalamus.

Case IX showed slight thickening of the glia over the thalamus, and mild gliosis in the hippocampus, the central white matter of the cerebellum, and on the floor of the fourth ventricle.

In case X the thalamus, hypothalamus and basal ganglia showed a satellite reaction. The pulvinar was the site of a mild gliosis. The lower part of the right ventral nucleus also showed an increase of glia nuclei and fibrils, not sufficient, however, to distort the normal architecture. The gliosis in the thalamus is comparable in degree to that present in the central white matter of the cerebellum, the only other place in which gliosis was present.

Control Cases.—Cases 1 and 2 showed a slight gliosis over the pulvinar, but not elsewhere in the thalamus; an absence of gliosis in the cerebrum in both cases, but a peripheral gliosis in the medulla and cord of case 2.

In case 3 there was in places a perivascular lymphocytic infiltration, which was not found in the cortex. There was also a

slight increase of peripheral and perivascular glia in the thalamus. Slight zonal gliosis in the cortex.

In case 4 the thalamus presented no noteworthy changes. Subependymal gliosis over the hippocampus and a focus of gliosis in the medulla.

In cases 5 and 7 the acute changes in the thalamus resemble those in the cortex; in case 5 there is some thickening of the glia over the thalamus, but none in case 7. No cortical gliosis in either case, but a gliosis of the cornu ammonis in case 7.

In case 6 there was a slight peripheral gliosis of the thalamus; none in the cortex.

The cases of cerebral arteriosclerosis and senile dementia (8, 9 and 11) showed advanced peripheral and perivascular gliosis in the thalamus with the presence of large fibril-forming cells in cases 8 and 11. In all these cases there was also a zonal gliosis over the cerebrum, and in addition in case 9 a perivascular, and in case 11 a sub-cortical gliosis. In the case of senile deterioration in manic-depressive (10) there was a mild perivascular lymphocytic infiltration in the thalamus; also a moderate perivascular and marked peripheral gliosis. The cerebrum showed a heavy zonal gliosis.

It is evident on review of these findings:

First. That the distinctive change in the thalamus is a gliosis. Degenerative changes in the nerve cells, satellitosis and perivascular accumulations, when present in the thalamus, were found also in the cortex, except in control cases 3 and 10, in which perivascular infiltration was confined to the thalamus. Some of the dementia præcox cases gave an impression of scarcity of cells as compared with the manic-depressive cases, but as this point could not be proved without accurate methods of enumeration to which the present sections were unsuited, it has not been emphasized. Changes in the hypothalamus were as a rule similar to those of the thalamus. The superficial glia was often rather heavier than over the thalamus, and active glia cells were frequently present beneath the floor of the ventricle, but no gliosis was found at any distance from the ventricular wall. No essential changes were found in the lateral or median geniculate bodies. In the lenticular and caudate nuclei the cellular findings were similar to those of the thalamus, but satellitosis was less marked.

The glia over the head of the caudate nucleus was thickened in the arteriosclerotic and senile cases, also in dementia præcox cases VI and X. Case VI, which showed extensive gliosis in the thalamus, had also a focus in the lenticular nucleus.

Second. That this thalamic gliosis occurs more frequently in dementia præcox patients than in those with other psychoses who die at about the same ages.

Third. That a marked gliosis may occur in the thalamus in dementia præcox cases at a period when there is little gliosis in other parts of the nervous system. In none of the cases was the gliosis strictly limited to thalamus, but in four of the six cases in which it was present there, it exceeded that found elsewhere.

The distinctive points about the thalamic gliosis in dementia præcox are the early age at which it appears and its occurrence in the absence of arteriosclerosis. The senile and arteriosclerotic cases showed marked peripheral and perivascular gliosis in the thalamus, as well as in other parts of the nervous system, but in them the thalamic gliosis was less active than in the dementia præcox cases, and had a more uniform distribution, lacking the focal character seen in several of the dementia præcox cases.

The areas most frequently involved are the median nuclei and the pulvinar.

Arranging the dementia præcox cases with reference to thalamic gliosis, age at death and duration of the psychosis (see Table I), it is found that the four cases showing no gliosis were all under 40 years, and that the psychosis was of short duration (not over one year). Of the four cases having a gliosis more marked and more active in the thalamus than elsewhere, three fall in the fifth decade, the third early in the sixth, and their psychoses were of three to five years' duration. Of two cases presenting a gliosis of roughly comparable degree both in the thalamus and in other parts of the nervous system, one was in the second half of the sixth decade and the disease was of long standing (19 years); the second was in the middle of the fifth decade and the disease was of six years' duration. The group presenting a gliosis either almost limited to the thalamus or more advanced there is therefore intermediate in duration, and, with the exception of case IV, intermediate also in age.

The interpretation of the lesion and its relation, if any, to the symptoms, are problematical. Correlations with the age of the patient and the duration of the disease suggest that it is dependent to some extent on these factors. The findings may mean simply that the gliotic process in general begins early in the thalamus as compared with other parts of the nervous system, and that it begins here earlier in dementia præcox than in other psychoses. The controls were not numerous enough (see Table II) to prove the first hypothesis, but the second is probable from the study of the present series.

As to the gravity of the lesion, not much weight can be attached to a mere thickening of the superficial glia mat, but its extension inward, accompanied by perivascular gliosis and fibril-forming cells, would appear to have some importance. The changes in III, IV, VI, VII and X are of the latter character. In addition, focal glioses are present in III, VI and X; those in III and X are situated in an area of the first importance, the ventral nucleus; that in VI occupies the larger part of the thalamus.

Study of the patients' histories adds nothing that, in the present state of our knowledge, can be pointed to as suggesting a correlation between the thalamic lesion and the clinical symptoms. Cases III, IV and X expressed somatic ideas, but, according to the histories, they were not prominent or persistent. In case VI, which showed the most marked and extensive lesion, no information on this point was elicited. In case VII cutaneous and visceral sensations form a conspicuous part of the clinical picture, but, in addition to the thalamic lesion, this patient presented posterior and lateral column gliosis.

CONCLUSIONS.

Some cases of dementia præcox in the fifth and sixth decades show a gliosis in the thalamus, which is more advanced and active than in other parts of the nervous system. This gliosis may be both peripheral and focal. Patients with other psychoses who died at about the same ages did not in the cases examined present a similar thalamic gliosis.

TABLE I.—DEMENTIA PRÆCOX CASES.

Group A.	No.	Age.	Form of dementia præcox.	Duration.	Thalamic gliosis.	Gliosis on other parts of nervous system.
No gliosis in thalamus	II	22	Catatonic hirntod.	8 days.	None.	None.
	V	34	Probably paranoid.	1 yr.	None.	None.
	VIII	17	Catatonic.	6 mos.	None.	None.
	IX	29	Paranoid.	1 yr.	Very slight thickening of peripheral glia.	Slight subedendymal gliosis in hippocampus and on floor of fourth ventricle. Slight gliosis in central white matter of cerebellum.
Group B.						
Gliosis more marked in thalamus than in other parts of nervous system.	III	41	Catatonic.	4 yrs.	Peripheral; focal atrophy with gliosis.	Small focus of gliosis in frontal cortex and cerebellum.
	IV	54	Catatonia (late).	5 yrs.	Peripheral; active gliosis in median nucleus.	Moderate subpial and subcortical of cerebrum.
	VI	44	Paranoid (paraphrenia).	3 yrs.	Peripheral; extensive focal.	Subcortical in post-central, frontal and hippocampal areas.
	X	40	Paranoid?	3 yrs. +	Fibrillar gliosis throughout pulvinar with perivascular and subependymal gliosis. Active glia cells and perivascular gliosis in median nuclei. Mild focal gliosis in ventral nucleus.	Moderate in central core of cerebellum.
Group C.						
Gliosis not limited to thalamus.	I	57	Paranoid.	19 yrs.	Peripheral and perivascular.	Moderate subpial gliosis of cerebrum.
	VII	45	Paranoid.	6 yrs.	Peripheral and perivascular; active gliosis, diffuse and focal, in median nucleus and pulvinar.	Posterior and lateral column gliosis.

TABLE II.

Group D.	No.	Age.	Psychosis.	Duration.	Thalamic gliosis.	Gliosis in other parts of nervous system.
Control cases.	1	41	Manic depressive.	5 yrs.	Slight peripheral over pulvinar.	None.
	2	54	Depression of involutional period.	1½ yrs.	Very slight peripheral over pulvinar.	Peripheral of medulla and cord.
	3	50	Depression of involutional period.	3 yrs.	Very slight peripheral and perivascular.	Slight zonal of cortex.
	4	40	Imbecile.	——	None.	Subependymal of hippocampus. Small perivascular focus in medulla.
	5	42	Chronic alcoholism, delirium tremens.	Alcoholism many years.	Very slight peripheral.	None.
	6	42	Epileptic dementia.	Many years.	Slight peripheral.	Slight peripheral of medulla and cord.
	7	34	Epilepsy. Status epilepticus.	Epilepsy 3 yrs.	None.	Marked in cornu ammonis.
Group E.						
Arteriosclerotic and senile	8	61	Cerebral arteriosclerosis.	9 yrs.	Very heavy peripheral. Considerable perivascular.	Zonal throughout cortex
	9	60	Cerebral arteriosclerosis. Cysts of softening.	3 yrs.	Very heavy peripheral and perivascular.	Moderate zonal and perivascular throughout cortex.
	10	78	Senile deterioration in manic depressive.	6 yrs. +	Marked peripheral. Moderate perivascular.	Heavy zonal throughout cortex.
	11	76	Senile dementia.	6 yrs.	Heavy peripheral and perivascular, most marked in pulvinar.	Zonal and cortical.

THE TREATMENT OF PARESIS AND TABES DORSALIS BY SALVARSANIZED SERUM.*

By HENRY A. COTTON, A. M., M. D.,
Medical Director, New Jersey State Hospital, Trenton, N. J.;
Consulting Neurologist, Mercer Hospital, Trenton, N. J.

Although general paralysis or paresis has been recognized as a mental disease for over 200 years, it is only within comparatively recent years that we have had definite knowledge of its etiology and pathology.

For many years it was considered purely a mental disease due to overwork, worry, etc., usually attacking those in the prime of life who were under great mental stress or were overworked. The relation of syphilis to paresis first noted by Krafft-Ebbing and other German writers was the subject of much dispute and until quite recently many writers, especially American ones, were inclined to dispute the rôle of syphilis in producing paresis. Upon a closer study of the histories of cases of paresis it was found that from 60 to 80 per cent had had a previous infection of syphilis, but this fact failed to convince the opponents.

The advent of the Wassermann reaction as a means of detecting luetic infection raised the percentage still higher, and many cases in which no history of syphilis could be obtained were found to react positively to this test.

The fact that the Wassermann reaction was positive in a large percentage of cases of paresis did not clear up all our etiologic difficulties, because of the fact that long periods of time elapsed in many cases between the infection and the onset of the paretic symptoms, during which time no symptoms whatever of the luetic process were apparent. Speculation upon the nature of the process during the intervening period was fruitless, as there was apparently no adequate explanation for this unusual phenomenon.

From the fact that the Wassermann reaction was present in

* Read in abstract at the seventieth annual meeting of the American Medico-Psychological Association, Baltimore, Md., May 26-29, 1914, and further enlarged.

the blood and spinal fluid of paretics, Plaut argued that the spirochete pallada were present somewhere in the body, either in certain organs or in the central nervous system, and perhaps in both. Alzheimer and other histo-pathologists, on the other hand, maintained that the spirochete were absent, mainly from the negative fact that after diligent search they had not been found. This controversy, however, was finally ended by the work of Moore and Noguchi.[1]

The importance of this work cannot be overestimated, for it not only settled finally the question of the etiology of paresis, but gave those interested in the care of these cases some hope of a rational method of treatment.

The problem divested of its previous mystifying elements was now apparently quite simple. We were dealing with the infection of a known organism, which organism was existent in the tissues of the brain and cord, and the next step was to devise some method of eradicating the organism before irreparable damage had been done to the cortex.

Swift and Ellis[2] had published a method of treating syphilis of the central nervous system by means of salvarsan nearly a year before Moore and Noguchi had demonstrated the organism in the cortex. But from the fact that our knowledge of the pathogenesis of the process was somewhat obscure, the method outlined by Swift and Ellis did not at first assume the importance that it did later, after the work of Noguchi and Moore. The repeated failure of anti-syphilitic therapeusis in paresis resulted in a certain amount of pessimism upon the question of treatment in general, and even to-day, in spite of the results thus far accomplished, many are unable to conceive of any beneficial results from any form of treatment.

The failure of anti-syphilitic remedies (mercury and iodide of potash), when administered in the usual manner, can be ascribed largely to the impermeability of the choroid plexus, which has

[1] A demonstration of treponema pallidum in the brain in cases of general paralysis (Journal of Experimental Medicine, Vol. XVII, No. 2, 1913), in which they were able to demonstrate this organism in the brains of 12 cases of paresis, out of 70 cases examined.

[2] The direct treatment of syphilitic diseases of the central nervous systems (New York Medical Journal, July, 1912. XCVI-53).

been shown by Goldman and others to act as a filter, this preventing the passage of toxic and foreign substance into the cerebro-spinal fluid. Also it is possible that the walls of the cerebral capillaries are so constructed that they prevent the passage of toxic or poisonous substance into the cerebral tissue.

But whether the failure of mercury or iodides to reach the spirochete in the cortex is due to the impermeability of the choroid plexus or to its refusal to secrete these substances and also salvarsan, or to the peculiar functions of capillaries, the fact remains that in the large majority of cases no results were obtained by such therapy, and it was practically abandoned. It is possible that in very early cases where large doses of mercury and iodides were administered, this barrier may have been overcome and some cases, like those reported by Dana, may have been permanently benefited.

The work of Flexner, in epidemic cerebral spinal meningitis, pointed definitely to the method to be employed in attacking infections of the central nervous system or its various elements. The serum in meningitis must be given intra-spinally to be effective. Hence, to be effective, remedial agencies in paresis must be given intra-spinally, and hence the valuable contribution of Swift and Ellis in treating tabes or paresis by means of intra-spinous injections.

The psychiatric world owes a tremendous debt of gratitude to these two men for their pioneer work in developing a satisfactory treatment for these two diseases, and I take this opportunity to express my appreciation for their valuable assistance extended willingly and courteously at all times, and can only regret that circumstances would not allow them to apply their treatment to paresis. To them we must give unstinted credit, for without their work and assistance it would have been a long time before this chapter in the history of psychiatry could have been written. The success of their method has been amply demonstrated in the Government Hospital at Washington; Sheppard and Pratt Hospital, Baltimore; Bloomingdale, and others. And although it has been criticised to some extent, still enough work has been done to prove that at present salvarsanized serum offers the best means of attacking the spirochete and thus arresting the disease process.

The success of the treatment will depend largely upon the

stage of the process in which treatment is instituted. From our knowledge of the anatomical process, it would be folly to expect to restore the cortex after it has been destroyed as we see it at autopsy. But it would be unfair to condemn a method of treatment because it did not cure in all cases; as in tuberculosis and many other diseases, the successful treatment depends upon a diagnosis of that disease in its early stages, and in that respect paresis is no exception. In fact, the process advances so rapidly in some cases that the patient may become so demented in six months as to be beyond hope of benefit. But the length of time does not always indicate the stage of the process, as we often find mild cases of two or three years' duration which respond successfully to treatment.

Diagnosis.

As the success of the treatment depends upon an early diagnosis of the disease, we will discuss in some detail the methods of diagnosis available, especially to the general practitioner.

It is no reflection upon these physicians that they fail to diagnose these cases, and in the past have not urged them to go to state hospitals or to undergo treatment. But now that it is so essential that these cases be treated early it behooves the physician in general practice to become familiar with the diagnosis of paresis, and to understand fully the necessity for early treatment. In analyzing the 127 cases of paresis admitted to this hospital in the last eight years, we find that the average duration of the mental symptoms before commitment was 18 months and the time varied from two to six years.

In 65 per cent of cases the duration was one year or more.

In 39 per cent of cases the duration was two years or more.

In 38 per cent of cases the duration was six months or less.

And it is needless to say that in very few of the cases was the disease recognized. The diagnosis of paresis is a very simple matter, in fact, in the majority of cases there should be no difficulty in at least suspecting the diagnosis. The use of the electric flash light will often tell the story. Dilated or contracted pupils with sluggish reaction to light, or often no reaction at all. The knee jerks, when absent as they are in 24 per cent of the cases, will also make one suspicious that the nervous patient is either a

paretic or tabetic or a tabo-paretic, and further examination is imperative. The other clinical symptoms are not so reliable, especially in the early cases, but loss of memory, indifference to work, change in disposition, extravagant ideas or lack of judgment, accompanied by stiff or sluggish pupils, absent or exaggerated knee jerks, tremors, speech defect, unsteady gait, will establish the diagnosis in a majority of cases.

However, there are a small number of cases in which these physical and mental signs will not be clear enough to make a diagnosis possible. We then have an accurate means of diagnosis in lumbar puncture. Even in institutions were the diagnosis should offer no difficulties, a lumbar puncture will correct a tremendous lot of error, especially in recent cases.

The examination of the spinal fluid is especially important, as in all other psychoses the findings are practically negative.

The methods of diagnosis in order of their importance are as follows:

(1) Colloidal gold reaction of Lange.

(2) Globulin test by Noguchi, butyric acid method.

(3) Increase in number of lymphocytes in the fluid and the presence of plasma cells.

(4) Wassermann reaction in the spinal fluid.

(5) Wassermann reaction in the blood.

In practically every case one of these reactions will be found to be present. Until recently the cell count and globulin test has been the most reliable diagnostic findings, either one or the other always being present, and in most cases both will be positive. Recently, however, the gold chloride test for globulin by Lange's method has been emphasized by Meyer[1] as the most constant test in paresis. This reaction is really based upon the globulin content and in a rather difficult reaction, especially for routine examinations.

Dr. E. Corson White, of Philadelphia, very kindly made the colloidal gold tests in 16 cases of our series. All but one of the cases are still under treatment, in which the other serological reactions were negative. In the one case (1) which has not been treated for over nine months, the reaction was negative. In the

[1] The Differential Diagnosis of General Paralysis, Am. Jour. Ins., July, 1914.

majority of the other cases the reaction was much reduced, but was still positive. In these cases the strength of the reaction was highest in the first four tubes, and then rapidly fell in strength in the subsequent tubes. In only one case was the highest reaction seen in the first five tubes, and that was a case in which the spinal fluid Wassermann is still strongly 4 +. The others showed considerable variation in the reaction. Further examination of these cases is indicated before we can arrive at any definite conclusions regarding the effect of treatment upon the colloidal gold test.

The globulin content has been the most constant finding in our cases, and has only been found to be negative in two instances in over 200 cases examined.

The exact significance of the presence of globulin or albumin in the spinal fluid has not as yet been satisfactorily explained. It has been considered an index of the destruction of the protein elements in the cortex, and is always found where the active process is going on. It usually follows the increase in the lymphocytes in the spinal fluid, but in many cases the cell count may be high and the globulin content low, and *vice versa*. In some cases of paresis, and especially tabes, in which the disease process seems to be stationary (and the patients live longer than the average, two and one-fourth years), the globulin content apparently becomes weak and the cell count diminished. In these cases, when the Wassermann reaction in the blood and spinal fluid are also negative, it would seem that the active process had ceased; that the organisms were no longer active or may have been spontaneously destroyed. The fact that Moore and Noguchi were only able to demonstrate the organism in 12 out of 70 brains would also lend force to the view that in many cases of paresis, after several years' duration, the spirochete become extinct, perhaps through the formation of specific anti-bodies in the blood.

The cell count is fairly reliable as a means of diagnosis, but in a few cases it may be normal or less than five cells per cc.

There is no doubt that the cell count undergoes considerable variation and at times may be negative. But our experience in testing a number of cases at different periods does not agree with the experience of Mitchell, Darling and Newcomb,[4] who found

[4] Observation upon the spinal fluid cell counts in untreated cases of cerebro spinal syphilis. Jour. Nervous and Mental Diseases, Vol. 41, No. 11, Nov., 1914.

that in the majority of cases there was a definite decrease in the cell count after repeated lumbar punctures. We only found this tendency to a decrease in cells and globulin in cases which had been in the hospital for three or four years and in which the paretic process seemed to be quiescent.

By studying our control case (Chart I) it will be seen that there were variations in the cell count and globulin, but in no instance did either become negative. In a number of cases of paresis in the acute stage the cell count showed a tendency to increase rather than decrease after a series of punctures. With the cell count low an error in diagnosis can result, unless the Alzheimer method of differential counting is used. The presence of plasma cells will make the diagnosis positive, even when the cell count is low.

The Wassermann reaction in the blood and spinal fluid cannot be utilized for diagnostic purposes as the reaction was found by Hammond[8] to be absent in the blood in 13 per cent of the cases and absent in the spinal fluid in 20 per cent of the cases. The Wassermann reactions are to be utilized, however, as a confirmation of the diagnosis, and when strongly positive at the onset, as an indication for continued treatment if these reactions remain positive.

With the methods available there can be no excuse for errors in clinical diagnosis, and in all cases suspected it should be the duty of the physician to have such tests made as outlined above in order to determine the necessity for immediate treatment.

Source, Circulation and Function of the Spinal Fluid.

Since the introduction of the intraspinous treatment with salvarsanized serum for paresis and tabes, the question of the circulation of the spinal fluid has received considerable attention. Many doubted the efficacy of the treatment, because they claimed that the serums introduced in the lumbar region of the spinal canal failed to reach the cortex.

[8] Statistical Studies in Syphilis with the Wassermann Reaction, with Remarks on General Paralysis. American Journal of Insanity, Vol. LXX, No. 1, July, 1913.

The recent work of Weed[6] is timely and has succeeded in clearing up some of the mooted questions regarding the source, etc., of the spinal fluid.

The recent work of Frazier[7] is also in accord with that of Weed.

It would occupy too much space to discuss in detail the experimental work of Weed. He has established some definite facts which are extremely important to those engaged in intraspinous therapy.

The spinal fluid is derived from two sources. First, from the secretion of the choroid plexuses in the lateral ventricles. Second, from the capillaries in the cortex, the serum filling the pericapillary and perineuronal spaces and flowing to the subarachnoid spaces. There can be no doubt but that the constituents of the fluid from these two sources are entirely different. The fluid exuding from the capillaries plays an important part in the metabolism of the nervous tissues, yielding nourishment and carrying away the waste products to the subarachnoid spaces. The flow from the the pericapillary and perineuronal spaces seems to be outward toward the subarachnoid spaces. By injecting a solution of ferrocyanide into the spinal subdural spaces Weed found that, under moderate pressure (50 mm. Hg.) traces of the solution could be found in perineuronal and perivascular spaces, and in some cases a fine diffuse collection of granules of Prussian blue around the nerve cells. He does not believe that there is any absorption of the spinal fluid by the capillaries, as the pressure of the blood in the capillaries is higher than that of the spinal fluid. Where the solutions were injected under high pressure (100 to 150 mm. Hg.) the passage of the fluid into the capillaries was obtained in a few cases. Tillney and Woolsey, in 1910, by a series of important studies in vital staining, introduced a solution of trypan blue, subcutaneously, intra-arterially and intra-spinally. By the first two methods they found that the skin, thoracic and abdominal organs were stained readily; the central nervous system, however, remained free from the stain. When given intravenously the stain reached the dura mater and pia, but did not penetrate the cortex. Even after using twice the quantity of solution and the concentration three times as great

[6] Studies on the Cerebro Spinal fluid. Journal Medical Research, Vol. XXXI, No. 3, September, 1914.

[7] The Cerebro-Spinal Fluid in Health and Disease. Journal A. M. A., Vol. LXIV, No. 14, April 3, 1915.

as used in the other two methods, there was no evidence that the dye had entered the cortex. After the intra-spinal injection, however, only one-tenth the strength of the solution, the meninges were not only found to be deeply stained, but the dye had penetrated deeply into the nervous tissue, even penetrating the walls of the capillaries, reaching the endothelium of the latter. These experiments with the work of Weed show conclusively that the cortex can be reached by means of intra-spinous injections.

The course of the fluid was also studied by Weed. He concluded that the course of the fluid was toward the medulla, both from the ventricles and spinal canal.

At the present time no one would doubt that the most efficient means of treating syphilis of the central nervous system is through the medium of the spinal fluid. As remedial agencies fail to reach the cortex by the usual methods, the spinal fluid offers the greatest hope for successful treatment. It may be disputed whether injections in the spinal cord in the lumbar region are as efficient as subdural intra-cranial injections. The intra-cranial method offers an advantage, from the fact that the medicinal serum reaches the cortex in a more concentrated solution than the serum introduced into the spinal canal. In the latter case the serum becomes somewhat diluted by the spinal fluid and a considerable amount is absorbed by the cord and nerve sheaths in its passage through the cortex.

But the experiments cited above disprove the theory that there is any mechanical hindrance to the passage of serum from the spinal canal to the cortex. In one of our cases which died after treatment, salvarsan was detected in the ventricles at autopsy on the day following intra-spinous injection.

Therefore the intra-cranial route may become the one of selection for the reasons stated above. It is also possible that this method may not require the administration of as many treatments as the intra-spinal one. But, in our experience, cases in which the intra-spinous treatment was unsuccessful failed to respond to the intra-cranial method.

The circulation of the fluid in the spinal canal is apparently toward the cortex, and finally the fluid escapes into the circulation by a process of filtration through the arachnoidal villi. There is a minor return of cerebro-spinal fluid through accessory drainage of the fluid into the lymphatic system, but it is unimportant.

He also concluded that the absorption from the cranial arachnoid space was much more rapid and much greater in amount than from the spinal portion. It was also determined that fluids pass readily from the subdural spaces to the subpial spaces, and thence to the cortex but that there was no passage of fluid from the subarachnoid to the subdural spaces.

Spontaneous Remissions in Paresis Without Treatment.

Much has been said about the percentage of cases of paresis which have spontaneous remissions without treatment. It is true that such remissions do occur, but prior to the use of the lumbar puncture as a means of diagnosis, statistics of such remissions have but little value, as a diagnosis made upon the mental or physical symptoms also will often be erroneous. Southard puts the error at 15 per cent, and it is probably larger. In order to throw some light upon the question the author analyzed all the cases of paresis admitted to the State Hospital at Trenton for the last 7 years. The total number of cases studied was 127, where the diagnosis was confirmed by lumbar puncture. Out of that number of admissions 14 cases left the hospital during a period of 7 years. Out of that number 7 cases were not improved and were taken out against advice; 2 were in a dying condition and died later; 2 were deported and nothing further heard from them, and 1 transferred to another hospital. Two cases have not improved since leaving the hospital, but are cared for at home. This leaves 7 out of 127 cases with true remissions, at the most 5.5 per cent. One of these cases (case 5) has been returned after a period of 5 years, and in 1 case no lumbar puncture was made and hence the diagnosis is uncertain. That leaves 5 of 127 cases which can consistently be called paresis, which have had definite spontaneous remissions varying in time from $1\frac{1}{2}$ to 3 years, or 3.9 per cent of the total number of cases admitted.

Below is given a short abstract of each case and a table showing the prominent factors. We should add to this group a case which has never left the hospital, but has had a remission of the physical symptoms. Mentally he is much demented and the biological reactions except for a positive blood Wassermann are negative. It would seem then that a very small percentage of cases of paresis (about 4 per cent) do show a spontaneous arrest

of symptoms, sometime for a considerable length of time. But such spontaneous remissions, when compared with the remissions obtained by treatment with salvarsanized serum, are very small. In our series, out of 66 cases treated, which includes all cases, many of which had been in the hospital for several years and were practically bedridden, and which also includes a considerable number in which treatment has just begun, the percentage of remissions, if we take the 10 cases which are living outside of the hospital or which have never had to come to the hospital as 10, is 15 per cent. But this percentage is not accurate, because in many of these cases there was no chance of improvement, but they were treated so that the method could be tested in all stages of the disease. But if we take 27 of the cases which were thoroughly treated during the last 2 years, the majority of which gave at least some hope of improvement and 10 of which cases showed very definite remissions, the percentage of remissions as the result of treatment is 35 per cent, compared with 4 per cent without treatment. And this percentage covers only 2 years, while the percentage of spontaneous remissions (4 per cent) extends over a period of 7 years, or 5 cases in 7 years, an average of less than 1 case a year against 10 cases in 2 years, or an average of 5 cases a year.

Following is a brief abstract of the cases showing spontaneous remissions:

Case 1.—H. B. Was committed first to hospital in 1905 for alcoholism and remained three months, when he was discharged. Recovered. He worked up to a few weeks before admission in 1913. Again began to drink heavily and was committed for alcoholism. Because of suspicious signs, speech defect, unequal pupils, tremors, etc., a lumbar puncture was made and a cell count of 29 with a positive globulin and negative Wassermann reaction in the blood. He cleared up rapidly, and in three months had apparently recovered, and was discharged. He resumed his employment and has worked steadily since then without any apparent symptoms of paresis. Remission has lasted two and one-half years.

Case 2.—W. O. Prodromal symptoms for two years. Heavy drinker, financial losses, inefficient in business and loss of memory. Remained in hospital for only one month, at which time mental symptoms were not marked. Memory was good; no deterioration established, but no insight. Probably symptoms were due mostly to alcohol. Physically he showed ptosis of left upper eyelid, pupils unequal and irregular, sluggish reaction to light, knee jerks and Achilles reflex absent, ataxic gait, Romberg, fine

tremors and speech and writing defects. He improved very much and was taken out by wife, who wished to place him in a private institution. Instead she took him home and in three months he was working as bartender in his saloon, but not drinking. Two years later field worker visited him and found him well mentally, but in poor physical condition, feet swelling, etc. The case was one of locomotor ataxia with mental symptoms of paresis, and alcoholism, and was an atypical case of paresis.

The third case was a typical expansive paretic with sudden onset, only two months, with definite physical signs, but not pronounced. The mental symptoms were those of a hypomanic condition with expansive ideas, playfulness and restlessness, but no demonstrable deterioration. He improved slowly and gained in weight, and was taken from the hospital by wife after a month, and since then he has been supporting family, and three years later a letter from his physician states that he is quite normal and shows no mental or physical signs of paresis. This was a fairly frank case of paresis without deterioration, and with cell count of 17 per cc. and a strong plus globulin and positive Wassermann reaction in blood and spinal fluid, the diagnosis cannot be questioned.

The fourth case was a paretic with fairly well-marked mental and physical symptoms and with a cell count of 298 per cc. and a strong plus globulin and positive Wassermann reaction in the blood. He improved gradually and left the hospital after ten months, and has been working in a piano factory and supporting his family.

The fifth case was a paretic with a history of slowly progressing psychosis of eight years' duration. Gradually became inefficient and was placed in less responsible positions until he had to give up work and was later sent to hospital. When admitted had unequal, sluggish pupils, some speech defect, exaggerated knee jerks and swaying in Romberg. Mentally, he was dull and stupid, but orientation and memory good. No evidence of dementia; school knowledge and calculating ability good, but latter very slowly performed. Poor insight and judgment. Lumbar puncture confirmed the diagnosis, as there were 68 cells per cc. and positive globulin; but both blood and spinal fluid Wassermann were negative. He showed considerable improvement, and after eight months in hospital was removed by wife. He obtained employment of a subordinate character which did not require much mental effort, and made $18 a week. His wife left him to earn her living. He showed no special symptoms until seven weeks before his second admission to the hospital; then had a weak and dizzy spell, became partially blind. He recovered in two weeks and went out West, but has not been so well since then. Returned to hospital after being out nearly four years. The physical signs were about the same as when first admitted, but weaker and had aged very much. Very unsteady on his feet. Mentally he showed evidence of defective memory for recent events and retention poor. Well oriented. Grasp upon school knowledge and calculation fair. The cell count was a little higher than at first admission and globulin was stronger positive than before, but blood and spinal fluid Wassermann negative. The case had a definite remission, but more of stationary type, and is now under treatment.

Below is a table showing in detail the features of cases of spontaneous remission:

Name.	Duration.	In hospital.	Remission.	Physical signs.	Mental symptoms.	Cell count.	Globulin.	W. B.	W. F.	Note.
1 H. B.	2 yrs.	3 mos.	2½ yrs.	Present.	Alcoholism.	29	±	−	...	In hospital 8 yrs. before for alcohol.
2 W.O.	2 yrs.	1 mo.	2 yrs.	Marked tabetic.	Slight.	33	+	+	4+	Still home.
3 A. D.	2 mos.	7 mos.	3 yrs.	Moderate.	Expansive typical.	17	+	+	+	Still home.
4 E. K.	6 mos.	10 mos.	1½ yrs.	Marked.	Marked.	298	+	..	...	Still home. Working.
5 H. G.	8 yrs.	8 mos.	5 yrs.	Marked.	Moderate.	68	+	−	−	Returned.

Description of Charts.

In order to get a comprehensive idea of each case as a whole we have adopted a method of charting the biological and the clinical data with the weight charts, so that one can see at a glance the complete case. The upper left hand division is devoted to the cell count, globulin and spinal fluid pressure. The upper right hand division represents the Wassermann reactions in the blood and spinal fluid. The lower left hand division represents the clinical and physical signs, and the lower right hand division the weight. In the division representing the cell count, globulin and spinal fluid pressure, in the three columns at the left in the order given, will be found the values for the curves, indicated by figures for the cell count per cc. It was impossible to show the curves in their true proportions, as it would make a too unwieldy chart, so after about 20 the figures skip sometimes 5 or 10. Consequently, the changes shown below 20 are much out of proportion to the changes above that figure. But the actual number of cells per cc. matters little, as the main point to consider is whether the cell count is positive or negative, and the changes in the lower numbers are more important to us than changes in the larger numbers. The cell count is represented by a full line.

Next in the second column we have the values for the globulin content representing the strength of the reaction from − to 4 +, given here with the dots around the plus sign to save space. This curve is represented by a heavy dotted line.

The spinal fluid pressure values are represented by figures usually ranging from 100 to 500 and the curve is shown as a fine dotted line. In most cases the pressure curve is above the other curves, but in some cases it is found among the other two curves, and at first glance they seem confusing. The dates of treatment are given above this division and the number of weeks of treatment also shown. Below the dates indicated by a cross (X) are shown the treatments, and when no initials are below, the regular Swift-Ellis treatment is meant. It is often indicated as S.-E. The Ogilvie modification is indicated by O. M., the intercranial punctures by I. C., and the bichloride treatment of Brynes by B. Intravenous injection is indicated by I. V., and in some cases I. S. represents the Swift-Ellis treatment. In the division representing the Wassermann reactions, the values are shown from − to 4 +, with the dots about the plus sign as in the globulin column. The blood Wassermann is represented by a full line and the spinal fluid reactions by the dotted line. The dates above represent the days the test was made.

In the clinical and physical charts it is intended to show diagramatically the abnormal and normal symptoms. Thus a pronounced defect is shown by three crosses (XXX), a less marked defect by two crosses (XX), and a slight defect by one cross (X). When no defect exists the cipher (O) is used. It is intended to show the clinical symptoms on days approximating those of the upper chart, so that one can correlate the clinical changes with the spinal fluid findings. The weight chart needs no detailed explanation.

It is hoped that these charts will give one the view of the case intended and will not prove too confusing. While not an ideal method of portraying the changes in the various fields, at the same time it is the best that the writer could devise.

Variability and Fluctuation of Biological Reactions. Control Case.

The changes noted in the biological reactions in our cases treated by salvarsanized serum have been criticized, and the claim has been voiced that these changes, *i. e.*, lowering of cell count, changes in globulin content from positive to negative, and also

similar changes in the Wassermann reactions, are only what occur in all cases of paresis whether treated or not. And the recent work of Mitchell would tend to substantiate that claim. We do not dispute the fact that there are fluctuations in these reactions over a definite period of time, or that the reactions may be stronger and more pronounced during the acute stages of the disease. And we will admit that in certain cases, a very small number it is true, the reactions may become negative, especially the cell count and globulin content. But our experience in making repeated punctures in a number of cases over a long period of time would tend to show that the fluctuations were within much narrower limits than claimed by Mitchell. Thus in cases 1 and 2, where the punctures were taken some months apart before treatment was instituted, the cell count and globulin content were practically the same.

In case J. F. (control) (Chart I) lumbar punctures were made every two weeks or once a month for a period of ten months without any treatment being given. The cell count fluctuated between a maximum of 60 and a minimum of 12, only once, however, reaching as low as the minimum, but in ten punctures the cell count varied between 30 and 60 and at no time did it become normal. The same may be said as to the strength of the globulin reaction. There was a tendency for the count to rise from 2 + to 4 +, and the same can be said for the Wassermann reaction (see chart). One can easily see that the tendency of the reactions is to become stronger as the patient fails as a result of the disease. And in the cases we treated which died during treatment the reactions showed a tendency to become stronger. In analyzing a number of cases of paresis in which lumbar puncture was made, not every two weeks, but several weeks covering various periods of time, the tendency of the reactions to increase in intensity where the case was failing rapidly or gradually was very pronounced. In certain cases which remained stationary the reactions showed a tendency to diminish. It is also true that often several punctures must be made if a case presents the clinical features of paresis and the first examination of the spinal fluid is found to be negative. But often, if the cell count is apparently normal, the globulin content in the majority of cases is positive. The Wassermann reactions are usually positive, but in a great

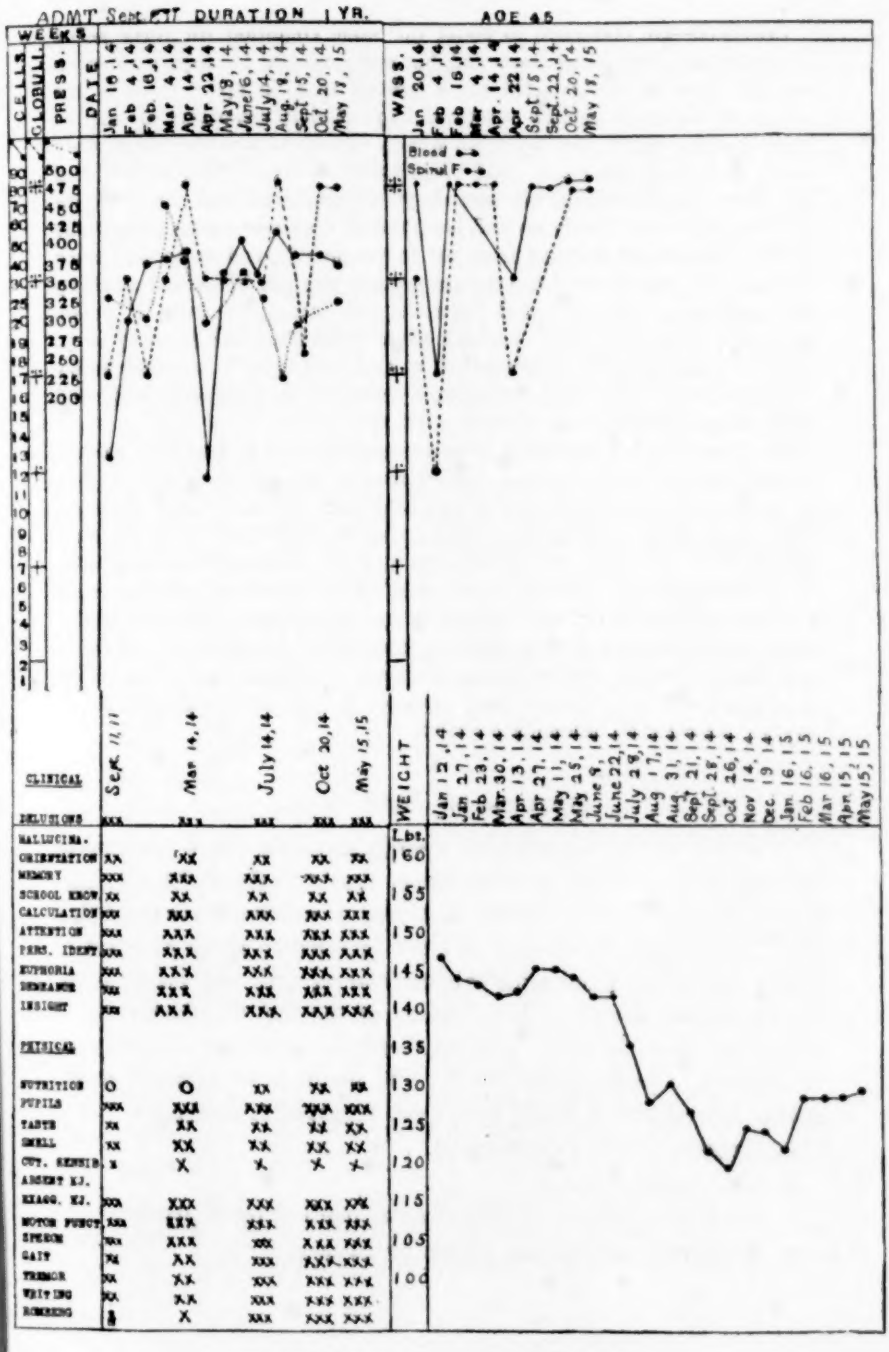
number of cases, about 15 per cent, these reactions will be persistently negative, so that it is useless to determine the diagnosis by the Wassermann reactions alone. The changes in the biological reactions in our treated cases are apparently due to the treatment and not to any spontaneous variation of these reactions unaffected by treatment. This fact is especially emphasized in our cases with a tendency to a persistent 4 + globulin or 4 + spinal fluid Wassermann, which, after many treatments, often as many as 20, begin to show a break and finally become negative.

The Wassermann reactions were performed after the original technique with the exception of the antigen. The latter consisted of the alcoholic extract of syphilitic fetal liver and the cholesterinized alcoholic extracts of human and beef hearts. These antigens were used concomitantly with the same sera when these gave reactions of doubtful nature. As already shown by Swift and Ellis, the human heart cholesterinized antigen proved somewhat more sensitive than the others and was taken as the standard.

Full quantities of serum and reagents were employed and the charted results recorded after the method of Citron. When both .2 and .1 cc. serum tubes showed complete inhibition it was recorded as + + + +, when the .1 cc. serum tube showed partial hemolysis, as + + +, the .2 tube alone completely inhibited as + +, and when partially hemolysed as +. The quantity of spinal fluid tested in the Wassermann reaction was .8 cc. The globulin content of the fluid was estimated by the Noguchi and Nonne methods and the cell counts made with the Fuchs-Rosenthal counting chamber.

CONTROL CASE.—J. F. (see Chart I.) Typical expansive paretic. One year's duration before admission. Bi-weekly lumbar punctures three years later. Gradually deteriorating, both mentally and physically. Variations in biological reactions, but now becoming normal. No improvement in mental condition.

This patient had been in the hospital about three years and onset of his trouble was probably one year prior to admission, at which time he presented the following physical signs: unequal pupils, sluggish to light; exaggerated knee jerks; typical speech defects; writing defective; tremors of fingers and tongue. Some incoordination, but mentally when admitted was somewhat confused, disoriented for time, place and persons, and had pronounced memory defects. He was very expansive and had a general feeling of well-being. Mental grasp poor and apparently moderately deteriorated. Untidy and indolent in habits, talking to himself most of the time.



CONTROL CASE. CHART I. J. FR. G. P.

Progress.—He continued in about the same condition for three years, gradually becoming more demented, but still retaining his expansive ideas. At this time he was selected for a control case, in order to show the effects of repeated lumbar punctures upon clinical symptoms as well as upon the biological reactions. Bi-weekly and monthly punctures were made, and blood and spinal fluid Wassermann tested. The punctures had no effect whatever upon his mental or physical condition. In fact, his deterioration went slowly on and his physical condition became materially worse. His weight dropped from 147 to 122 pounds, and he became much weaker. In other words, the disease process was not influenced at all by the punctures. The biological reactions also were very little, if at all, affected by the punctures; the cell count gradually rose from 13 to 50 after five punctures, then dropped to 12 and rose again in a month to 60. The globulin reaction became stronger, going from + to ++++, and with some variations remaining at 4+.

The blood and spinal fluid Wassermann showed a tendency toward parallel fluctuations, but persistently showed a tendency to remain at 4+. At present, after a year and a half, the last puncture taken after an interval of eight months, the reactions are stronger than when puncture was begun. Of course, no one expected such an advanced case to improve from punctures, but this case is reported to show that no influence at all was exerted upon the disease process by lumbar puncture. Similar studies made upon new cases show a tendency toward an increase in the cell count and globulin content after repeated punctures. In old cases, who have been in the hospital for three or four years or longer, one finds a tendency toward the reaction becoming negative.

Methods of Treatment.

We have at the present time several methods which have been developed as a result of the pioneer work of Swift-Ellis at the Rockefeller Institute. In the first year of our work we used the S.-E. treatment exclusively, and are inclined to think as good a result can be obtained with this method as with any other, with the exception, however, that, because of the fact that intravenous injections must be given with this method, the interval between treatments is perhaps too long. The methods of administering salvarsanized serum which have been reported to date are:

1. Original Swift-Ellis method.
2. Ogilvie modification.
3. Cerebral puncture or intracranial method by Wardner.
4. Bichloride of mercury serum by Brynes.

5. Cotton methods.
   a. Administering Ogilvie serum by cerebral and intraventricular puncture.
   b. Administering bichloride of mercury serum by intracranial and intraventricular puncture.
6. Intraventricular administration of the serum, Hammond and Sharp.

Methods in Detail.

1. *Swift-Ellis Method* (designated in charts and text as S.-E.). —This method was devised as a treatment for locomotor ataxia and is to be considered the fundamental method of using salvarsanized serum or treating the syphilis of central nervous system. Unfortunately Swift-Ellis were unable to treat cases of paresis at Rockefeller Institute Hospital, so their method had to be used and adapted by others for this work, although it was from their suggestion that such work was instituted. This method is now so well known it is hardly necessary to go into detail as to its administration; however, we will outline its salient features.

The patient is first given an intravenous injection of salvarsan or neosalvarsan. After an hour has elapsed the blood is withdrawn and according to Swift-Ellis the blood at that time contains a maximum amount of salvarsan and after this time the amount rapidly decreases. The blood is withdrawn in a sterile cylinder with ground glass stopper and every precaution is taken to keep it sterile and uncontaminated. We use Macrae needles fitted tightly into the cylinders and in order to supply the vacuum to the cylinder to accelerate the flow of blood we attach a tube connected with an ordinary aspirating vacuum bottle. This is much more convenient and much easier than the sucking process usually employed with the Macrae needles. One can use a large needle and allow the blood to flow into a tube without the aid of a vacuum, but our method is to be preferred for various reasons. The blood is usually allowed to stand over night, separating the clot from the side of the cylinder by a sterile rod to allow it to contract more readily and to obtain more serum. This serum can be used, however, after allowing the blood to stand for 5 or 6 hours, instead of 24. The supernatant serum is then pipetted off and then thoroughly centrifuged at 3000 revolutions for a

period of one-half hour in order to thoroughly remove any blood cells. The serum is then inactivated for one-half hour at a temperature of 56° C., cooled and then normal salt solution is added and this must be made up from double distilled sterile water freshly prepared. The amount of salt solution added to the serum can be varied according to experience. Originally S.-E. used 10 cc. of the serum and 20 cc. of normal salt solution. We have frequently used 20 cc. of fluid and 10 cc. of normal salt solution, or 15 cc. of each, and serum is often used alone without addition of any salt solution. We found that the best results were obtained with a mixture of 15 cc. each, although occasionally we have given as high as 30 cc. each, but the reaction from the latter is apt to be severe. The serum after being treated as before is now ready for use intraspinally. It can be used on the same day that the intravenous injection is given, but we prefer to allow the blood to stand 24 hours and administer the serum intraspinally on the next day. The patient is prepared for lumbar puncture, which is made either lying down on the side or sitting upright on a stool. We have invariably used the latter position without any untoward results. Lumbar puncture is then made in the usual manner with a Quincke needle, the end of which is made to receive the adapter connected with a rubber tube to the pressure gauge and another tube connected with the Luer syringe. After the puncture is made the pressure is measured by means of the millimeter tube and then fluid is allowed to run out through the end of the pressure tube. The amount of fluid taken off varies considerably in different patients. In some patients we have removed as much as 70 cc. of fluid without any noticeable effect on the patient and in all cases we remove as much as possible, *i. e.*, until the patient begins to complain of severe unpleasant symptoms in the head. The serum, which in the meantime has been warmed to body temperature, is then put in the Luer syringe and a little is allowed to flow out until all air escapes and then the adapter is fitted to the lumbar puncture needle and the serum allowed to flow in by gravity. After about one-half of it has flowed in, the piston of the Luer syringe is then used to force the remainder of the serum in the needle. The patient is then allowed to lie down for an hour or so, and frequently it is necessary for the patient to remain in a recumbent position for 24 hours or longer. Some of our

patients, however, do not lie down at all after the injection, but go about as usual. Care of the patients after intraspinous injection has to be according to individual needs. Some patients do not mind it at all, having no reaction, while with others it is much better for them to remain quiet and in bed. In no case, however, is a patient put to bed and his feet elevated, as that is liable to bring on severe headaches and vomiting. We have not given this method oftener than once in ten days, but it is possible to give it more frequently. Often our patients react more strongly to the intravenous injection than they do to the intraspinous. The only criticism of this method is that one is unable to give it frequently enough, owing to the danger of the intravenous injection. No doubt some patients could stand the intravenous injection once every three or four days, but we must admit that it is rather dangerous procedure and may cause the death of patients who are unable to stand the treatment so frequently.

2. *Ogilvie Modification*[*] (designated in chart and text as O. M.).—This method was devised by Hanson V. Ogilvie, who worked with Swift-Ellis at Rockefeller Institute during the time they were experimenting with their method. The essential difference in the two methods is that the salvarsan is mixed with the blood serum outside of the body instead of giving the salvarsan intraspinally. The method in detail is as follows:

Forty or 50 cc. of blood is withdrawn from the median cephalic vein by the same method as used in withdrawing blood in the S.-E. treatment. This blood is then allowed to stand three or four hours or until sufficient serum has collected. The supernatant fluid is then pipetted and centrifuged thoroughly, the same as in the first method. Then to this is added ¼ mg. of salvarsan, which has been dissolved in sterile distilled water and neutralized in the usual way. This is mixed thoroughly with the serum and then the serum is incubated for an hour at body temperature and later inactivated for one-half hour at 56° C. Usually about 10 cc. of serum is used for this treatment. As soon as the serum is ready it can be administered intraspinally in the same manner as the first method. Ogilvie claims for this serum an advantage, that

[*] The intraspinal treatment of syphilis of the central nervous system with salvarsanized serum of standard strength. Jour. A. M. A., Vol. LXIII, 22, March 28, 1914 (Hanson V. Ogilvie).

one is giving a known amount of salvarsan, whereas in the Swift-Ellis method the amount of salvarsan given is never known, as it is liable to vary in different cases and in the same case at different times. It is also claimed that considerable more salvarsan is administered by this method than by the S.-E. The intravenous injection is not neglected, however, and the patients receive every ten days or two weeks a full dose of salvarsan intravenously. One advantage of this method is the fact that it can be given much more frequently than the S.-E., and in some cases this is a decided advantage. We have been alternating these methods, S.-E. one week and Ogilvie on alternating weeks, and our results seem to justify us in continuing the combined methods. It is also much cheaper, which is an important factor to be considered in a large institution where 10 to 20 cases are treated weekly. The small ampule of salvarsan of .15 gm. dissolved in 50 cc. of distilled sterile water makes 600 doses, so that one uses $\frac{1}{10}$ of the cc. of this solution to obtain $\frac{1}{4}$ mg. of salvarsan. The amount of salvarsan may be increased to $\frac{1}{2}$ mg. without much danger, but it is preferable to give it more frequently and retain the dose at $\frac{1}{4}$ mg. In some cases we have obtained good results with $\frac{1}{8}$ mg., especially in female patients and children.

3. *Cerebral Puncture Method,* by Wardner[*] (designated as I. C. or C. P. in charts and text).—Dr. Wardner, of the Essex County Hospital, N. J., has developed the technique for intracranial puncture, as suggested by Levaditi, Marie and Martel in December, 1913, and has also perfected it to such an extent that we believe the treatment should bear his name. He has had marked success with this method and deserves credit for his initiative and perseverance in bringing the method to such a successful conclusion. The writer has personally seen his work and observed his cases and the results are altogether satisfactory. And we are inclined to believe that it is the method of selection in some cases, and can be advantageously combined with the S.-E. and Ogilvie methods.

The method in detail is as follows: The salvarsan is given intravenously in the usual manner and the blood collected an

[*] A report of five cases of the intracranial injection of auto-sero-salvarsan. Am. Jour. Ins., Vol. LXXXI, No. 3, Jan., 1915.

hour later and the serum treated exactly as in the Swift-Ellis method. The next morning the patient is prepared for cranial operation and given ether as anæsthetic. (We use exclusively the Clark apparatus for nitrous oxide, oxygen and ether anæsthesia, as we find the patients bear the anæsthetic better and the anæsthetizer is out of the way of the operator.) An incision is made over the precentral gyrus, midway between the ear and the median line of the skull. The flap is turned back and the temporal muscles separated. A trephine is then made with a Hudson drill, large enough to get a clear view of the dura and dural vessels. When the dura is exposed a lumbar puncture is then performed and sufficient fluid removed to reduce the intracranial pressure and overcome the tension of the dura. The serum is then put into an ordinary Luer syringe, attached to a special cerebral puncture needle bent at nearly right angle near the point, with a reinforced shank to facilitate its introduction under the dura. (This needle is made by Lentz, of Philadelphia, and we have found it very satisfactory.) The serum, about 30 cc. in amount, is allowed to flow in by gravity. We allow the lumbar puncture needle to remain in position while the serum is being administered, and if after the cerebral puncture needle is withdrawn there is a tendency for the serum to exude, more spinal fluid is removed. The opening is then closed and head bandage applied. The next puncture is made on the opposite side and the following punctures made in the same trephine opening.

Logically this method should be preferred to the spinal puncture and although the clinical results of Wardner are excellent, still he was unable to reduce the globulin content or to influence very materially the Wassermann reaction in the spinal fluid. The blood Wassermann, however, was much reduced. We have been unable to produce any results by this method in cases where the intraspinous method failed. But as the cases in which it was tried were of the demented class it cannot be said that the test was altogether fair. But had the method proved efficient after failure of the intraspinous method no further proof of its efficacy could have been desired. We are utilizing the Wardner method with the S.-E. and O. M. methods and believe that the combination will prove efficacious. The advantage claimed and justly, is that fewer treatments are necessary by this method

than by the others and thereby the arrest of the process occurs more rapidly, and we are inclined to agree with this view.

4. *Bichloride of Mercury Method* (as described by Brynes).[10] —The method in detail is as follows: About 6 ounces of blood are withdrawn into a sterile cylinder as in the O. M. treatment. This is allowed to stand and serum collected. It is then thoroughly centrifuged and after inactivating at 56° C. for one-half hour 1/50 of a gm. of mercury is added and well shaken to prevent precipitation. It is well to add this in solution to a small amount of serum and then if any precipitate occurs add more serum to take up this precipitate. Small glass beads in the cylinder assist in mixing the solutions. The serum is then ready for intraspinous injection in the usual manner. This serum deserves to be given a fair trial and if found to be efficient will prove a boon to the treatment of cerebro-spinal syphilis, principally because of the cost of salvarsan and the increasing difficulty of obtaining it. If the supply is exhausted then we will have to resort to this method.

Mulford has recently placed upon the market a bichloride serum containing 1/50 or 1/25 gm. prepared after the Brynes formula and at present we are using this preparation in the treatment of selected cases. We will admit that we have not chosen the most promising cases, but the results obtained seem to justify the opinion held by Brynes. We were of the opinion that the serum could be used as an adjunct to the salvarsan treatment, so it was given in two cases (3 and 31) who had improved materially under the salvarsan treatment. Unfortunately both of these cases were of the tabetic type and both had severe reactions following the bichloride treatment. One of these (case 3) recovered after a month and the other (31) died a month later. As we have seen these reactions occur in two other cases of tabo-paresis under salvarsan treatment, we cannot ascribe their collapse to the use

[10] The intra-dural administration of mercurialized serum in the treatment of cerebrospinal syphilis, Dr. Charles Byrnes, Journal A. M. A., December 19, 1914, Vol. LXIII, pages 2182 to 2186. This method differs materially from the one described above because of the fact that the bichloride of mercury is used as the antispirochetal agent. The author claims that as good results can be obtained by this as by salvarsan. We are at present giving it a fair trial and the results of our experience will be given in a later communication.

of the bichloride serum. But we would advise caution in using it in cases previously treated by salvarsan. In other cases, where no other treatment had been employed, there were no accidents, and, as we stated, the results justify us in continuing its use.

5. *Cotton Methods.*—a. Administration of Ogilvie serum intracranially and intraventricularly. b. Administration of bichloride serum intracranially and intraventricularly.

Method a.—It occurred to the writer that if it was an advantage to have a maximum amount of serum introduced into the cortex by means of cerebral puncture, thus in order to get the maximum amount of salvarsan, the standardized solution of Ogilvie would accomplish that purpose. So we proceeded to introduce the Ogilvie serum intracranially and although our experience has been limited, at the same time we can report no untoward effects of this method of administration. The recent work of Hammond and Sharp [11] led us to try also the administration of the Ogilvie serum by means of a ventricular puncture. This has been done in several cases, but the advantage of these methods cannot be discussed as yet because our use of these methods has been of too short a period to allow us to form any conclusions as to their value.

Method b.—This consists in the administration of the Brynes serum by means of the intracranial and intraventricular puncture. The technique of these methods need not be described in detail, as the only variation is in the kind of serum used. But several cases have been treated with the bichloride serum by means of intracranial and intraventricular puncture without any bad results.

We believe that these methods can be combined with the other methods described with considerable advantage. The method is not difficult and can be administered without any bad effect upon the patient. The trephine is made in the usual way and after the dura is exposed a small caliber lumbar puncture needle (Quincke) is then inserted into the dura toward the median line and downward. As soon as the ventricle is reached the fluid begins to flow. The pressure can be measured and when sufficient fluid is withdrawn the serum placed in a Luer syringe is allowed to flow into the ventricle by gravity. Lumbar puncture is also performed at the same time.

[11] Reported at the meeting of the American Neurological Association, May, 1915.

A comparison of the fluid obtained from ventricular puncture and by lumbar puncture proved interesting. Fluid from the ventricular puncture in two cases showed the globulin content was negative while it was 3 + in the fluid from lumbar puncture. The cell count was 5 and 1 in the former fluid and 17 and 13 in the latter fluid.

6. *Intraventricular Administration Method* (Hammond and Sharp).—Salvarsanized serum administered by intraventricular puncture.

The authors of this method reported the technique at the meeting of the American Neurological Association in May, 1915, and as yet their work has not been published. The superiority of this method is based upon the claim that when a serum is introduced into the ventricle it flows over the cortex below the pia and consequently is more efficient than when given subdurally. We cannot discuss the merits of this claim except to say that in normal conditions Weed and others have proved that fluids and stains introduced into the subdural space penetrate readily to the cortex. In cases of paresis, however, with a certain amount of thickening of the pia it may be possible, as they claim, that the inflammatory condition of the pia prevents the absorption of the serum; at any rate it is another method to be thoroughly investigated and if the results prove to be better than those obtained by the methods heretofore used we will gladly welcome them.

Results of Treatment in Paresis.

The total number of cases that have been treated or are under treatment at the present time is 66, and in all 600 treatments have been given. Of this whole number some have only been treated for a short period and consequently cannot be used for comparative study at the present time. Therefore, we have selected 31 cases who have been treated for at least six months, but in all but a very few cases the treatment has been continued for over two years, or the patients have been observed for that length of time. We could add to this number quite a few cases who have been under treatment for several months with very good results, but it is not our purpose to inflate our statistics or make the treatment appear to be more efficient than it actually is. We feel that the results we have obtained, even when considered from a very

conservative standpoint, will show the efficiency of the treatment without padding the statistics.

In classifying the results we find that we can place them in four distinct groups, except that the first and second groups overlap to some extent. At least we could place some of the second group among the first with a clear conscience, but we prefer to classify them as accurately as circumstances will allow. The grouping of the cases with the percentage of each group is as follows:

Group	(1)	Arrested cases	11	35.5%
"	(2)	Much improved	7	22.5%
"	(3)	Not improved	7	22.5%
"	(4)	Died	6	19.5%
		Total	31	

If we selected five cases of the second group who had had definite remissions, but in some cases later had relapsed, we would then have 16 cases out of 31, or 51.5 per cent of the cases treated, who showed marked improvement as a result of the treatment. Some of the cases in which the treatment had no effect were cases taken for experimental purposes with no expectation that they would be benefited, although we hoped that they would. If these cases were eliminated it would make the percentage of improved or arrested cases even higher than that given above. But our results, as they stand under the grouping, are encouraging enough so that for the present we will have to be satisfied with a percentage of 35.5 per cent for arrested cases.

GROUP I. ARRESTED CASES OF PARESIS (11 CASES, 35.5%).

An analysis of the first group of 11 cases shows that the duration of the psychosis prior to treatment varies from one month to three years. In two of the cases (6 and 11) the duration is difficult to establish, for in the former case neurasthenic symptoms were present for four years, although the outbreak of the paretic symptoms occurred only three months before admission to the hospital. In case 11 the patient had optic atrophy four years before treatment, although the symptoms of paresis were not noticed until six months previous to admission. The average duration of the process in this group before treatment was insti-

tuted was one year and three months, which is somewhat under the average duration of all cases admitted, one and a half years. Some of these cases were of the typical expansive variety, usually so easy to diagnose. Two were of the demented type, *i. e.*, without any marked delusions, dull and stupid, but not necessarily demented. We speak of a demented type as distinguished from an expansive, depressed or neurasthenic type. These patients usually show marked inefficiency in their work, loss of memory and general indifference, and appear demented. But the results of treatment prove that the confusion, dulness, etc., were not real dementia. Two cases were of a neurasthenic type and other than this showed no mental symptoms. One of the expansive types was also neurasthenic for four years before the onset of the expansive delusions. Two juvenile cases were also in this group, one 19 years (case 1) and the other 13 years of age (case 13). Both of these patients belonged to the demented type. In the former the onset of paresis was probably three years before treatment. The writer made a diagnosis of paresis from the clinical symptoms and positive lumbar puncture findings a year before treatment was started, and during that time the case became much worse. But in no case treated were the results so successful as in this one, and after a period of two years he still remains quite normal, except that he is somewhat nervous and unable to stand much excitement, and also has an occasional convulsion. The second juvenile case showed the first symptoms only one month before he was treated, and the results were equally as satisfactory as in case 1. When first seen this patient was unable to talk. Was dull, stupid and apparently demented. From this condition he was changed to a bright, alert boy who could come and go alone from the hospital in Trenton to Perth Amboy by trolley, which necessitated three changes. A Binet test made shortly after he began to improve showed him to be the mental age of 6, but six months later he was found to be normal mentally for his age.

Three patients of this group were women (cases 25, 3 and 10), and two of these women were tabo-paretics, the only tabo-paretics in group 1. One of these women (case 10) was the mother of the juvenile case (1), and her symptoms were not noticed until three years after the onset of the symptoms in her son. Her physical signs were noticed for one year, and the mental symptoms for

about three months before she came under observation, at which time she was unable to walk on account of her tabetic condition. She was dull, stupid and indifferent and apparently becoming rapidly demented when treated. The results have been extremely successful and now she is able to walk around the city and attends daily to her household duties. Neither mother nor son was committed to the hospital, although in both cases that step would have been necessary very soon.

Another tabetic type was of the expansive maniacal type and she responded quickly to treatment, so that in eight months she was able to leave the hospital and has been employed as a housekeeper since that time. She had a relapse following a treatment with bichloride of mercury (Brynes method), which lasted two months and from which she subsequently recovered. The relapse was entirely physical and mentally she has been entirely normal. The tendency of the cases of tabo-paresis to relapse is rather marked, and will be described more in detail when we consider group 2.

The other female paretic (case 2) was not tabetic, but was a maniacal-expansive type with very sudden onset of the maniacal symptoms. These subsided in six months and patient had a spontaneous remission of her clinical symptoms, although the biological reactions were the same a year later. This is the only case in group 1 where the tendency to a spontaneous remission was present. Hence, her case was a favorable one and the results very successful. She was a German and when admitted to the hospital knew no English, but after treatment she learned English readily and now speaks it fluently. Another interesting fact in this case is that her husband died of paresis in a German hospital two years before she developed the disease.

The neurasthenic cases (6, 9 and 38) were males and in one of them (6) the symptoms were apparent for over a year. He complained of stomach trouble, nervousness and sleeplessness. He improved very much under treatment in spite of the fact that he suffered considerably from the reaction following the treatment. He gained 15 pounds in weight but he reacted to the treatment to such an extent that it had to be interrupted, after which he became worse and lost 30 pounds. Treatment was instituted again and since he has been treated regularly he has again shown marked improvement. The second case (9) had been suffering

for four years. He was unable to work and much of his time was spent in various hospitals. He lost weight and gradually became worse. About three months before admission he developed expansive ideas, conduct disorders and had to be committed to this hospital. He improved rapidly under treatment and in a few months gained 45 pounds. He was able to leave the hospital and has been home for over a year, earning a living as clam digger. He occasionally has a return of his stomach trouble, but his general condition is good and he is normal mentally.

The third neurasthenic case (38) had symptoms for a year before treatment accompanied by physical signs of paresis. An examination of the spinal fluid revealed the fact that he had 73 cells per cc. and a strongly positive globulin. Since treatment he has gained both mentally and physically except for slight optic atrophy so that it was not necessary for him to be committed to the hospital, as he had good insight and came regularly to the hospital for treatment. While he is still under treatment the great improvement noted warrants us in giving a good prognosis.

In all these cases there was a marked gain in weight, from 10 to 40 pounds during treatment, with the exception of the cases which were well nourished at the beginning of the treatment.

In the six expansive cases in this group only one was a tabetic type (case 3 already described). All of these cases presented the clinical symptoms of paresis, both mentally and physically, and diagnosis was confirmed by lumbar puncture. They all improved rapidly and after five or six treatments appeared to be quite normal mentally. They, with the other cases in this group, soon developed good insight into their condition and lost their expansive delusions, memory disturbances, etc. The most interesting case in this group is case 7, who had shown symptoms for nine months previous to commitment to the hospital. Just previous to admission he went to Washington to consult a patent attorney about many inventions, tried to see the President, was arrested in Union Station and had to be brought home. After two treatments he lost his expansive delusions and was in fairly good condition, so that his wife removed him from the hospital against the advice of physician. He remained out five months, doing some work, but gradually became more expansive and excitable, so that it was necessary to return him. He was then given 11

treatments, after which he again became normal and this time was allowed to leave the hospital with the consent of the writer, which proved to be an error in judgment. He remained out from August to October, when he again developed expansive delusions and a condition similar to that when admitted. He was more irritable, fault-finding, demanding his release and showed absolute lack of insight. It was difficult to treat him, as he was inclined to resist. From this time on he was given weekly treatments, Swift-Ellis, alternating with Ogilvie, and frequently two or three Ogilvie treatments, followed by Swift-Ellis. This time he improved more slowly and it was nine months before he was allowed to have parole. At the present time (May, 1915) he is in normal mental condition. Has good insight, is on parole and is perfectly willing to remain until he is discharged in the regular way. This case illustrates the necessity for continued treatment, twice within two years treatment interrupted from three to five months with disastrous results; but by persisting in his treatment the result was good. He is still under treatment and prognosis is favorable. He gained 45 pounds in weight, but during the period he was out of the hospital he lost 25 pounds and since that time has again gained 15 pounds. Upon one occasion, March 3, 1915, after S.-E. treatment he developed an irritative meningitis, the cultures from which were absolutely sterile and the cell count 3000 per cc. Globulin rose from ± to 4 +. He had severe headache and at this time his temperature rose and he was very much confused. However, this condition rapidly cleared up and in two weeks the cell count was down to three, and globulin negative. Since that time his physical condition has improved rapidly.

Another expansive case (12) showed rapid improvement after the first two injections, was removed by wife, who considered him normal, but was only able to remain out two months. The expansive delusions returned in number; he showed no insight and the physical symptoms became worse. For the last eight months the patient has been living at home, returning to the hospital every two weeks for treatment. He was formerly a policeman, but now devotes his time to raising flowers, in which he is fairly successful. He showed no mental symptoms, but recently physical signs became a little more marked and treatments were started weekly instead of every two or three weeks as formerly.

Eight out of this group of eleven cases which were called arrested are living at home and three of them are undoubtedly prevented by the treatment from being committed to the hospital. The remaining three have unlimited parole and in one case for financial reasons prefers to remain at the hospital. All of these patients showed rapid clearing up of the mental symptoms and also in a large majority of the cases of the physical signs as well, with the exception of pupillary disturbances and changes in the knee jerks. Tremors, speech defect, unsteady gait, writing defects, all disappeared, so at the present time it would be difficult to make a diagnosis of paresis upon casual examination. Six of this group are still under treatment and have shown no tendency toward a relapse.

Treatment and Biological Reactions. The greatest number of treatments given in one case was 33, in case 7, and the least number of treatments was eight, in the juvenile paretic, case 13. Both these cases, however, are still under treatment. In the juvenile case the reactions after four months have gone from negative to positive and it will be necessary to continue the treatment, although there has been no relapse in the physical or mental condition. All the cases were started on the S.-E. treatment, but since January, 1915, those under treatment have received also the Ogilvie modification, in some cases exclusively, in other cases alternating with the former. Only one case has received S.-E. treatments exclusively (case 2), and the number given was 12. It is possible that this case will have to be treated again, as the Wassermann reaction in the blood has shown a tendency to increase.

Cell Count.—The cell count in group 1 by the Fuchs and Rosenthal method has varied from 115 to 4 on admission and before treatment. In six of these cases the drop in the cell count occurred rapidly after one or two treatments; in the others the drop was more gradual. The globulin, with the exception of case 3, also fell in strength from 4 + to −, along with the drop in the cell count. With interruption in the treatment as in cases 7, 9 and 12, in cases 7 and 9 the cell count and globulin showed a tendency to increase. In five of the cases there was a very strong positive globulin (4 +), while in one case (case 1) the globulin has been persistently negative. In case 3 the globulin remained 4 + after eight treatments, then began to fluctuate, varying

between + and 2 +. In cases 6 and 9 (neurasthenic types) the cell count was very low, in the former 2 cc. and in the latter 8 cc. This count rose later in the former to 15, and in the latter to 10. In case 9, however, the globulin was 4 +, and this fact, taken together with physical signs, stiff pupils, etc., made the diagnosis possible, although the mental symptoms were those of a typical neurasthenic. The Wassermann reactions in these two cases were also atypical, in case 6 both being persistently negative and in case 9 blood Wassermann persistently negative, but spinal fluid Wassermann occasionally becoming +. Case 7 also showed some deviations from the usual findings, as the cell count was low, only 12, and globulin +. The cell count varied considerably and after the second interruption went as high as 30, but at the present time it is down to 6 and the globulin negative. It is interesting to note that in two cases (1 and 2) the cell count remained practically the same after a year's interval before treatment was instituted and globulin content was also the same. In case 1, the clinical symptoms were progressing rapidly, patient becoming more demented, while in case 2 there had been a spontaneous remission, although the cell count and globulin had not changed. The globulin reaction is of extreme importance in the diagnosis of paresis and also is an indication as to the efficiency of the treatment. It is never safe to discontinue treatment while the globulin is positive. In the majority of our cases, those of the arrested process as well as in others, the effect of the treatment was to reduce the globulin. The cell count should also be carefully watched in order to determine how long treatment should be continued, and then, with the cell count and globulin negative, treatment should be continued for some time longer, even when no clinical symptoms are present, with occasional intervals of interrupted treatment, to determine whether or not the process has again become permanently negative.

Wassermann Reactions.—The Wassermann reactions either in the blood or spinal fluid cannot be used as a means of diagnosis, as they are apt to be absent in about 15 per cent of the cases, but when present at the beginning of treatment they act as very efficient indicators to determine the question whether or not the treatment should be continued. In six of our cases the blood Wassermann was strongly positive before treatment and in all but two

cases (6 and 9, neurasthenic types) was positive some time during the treatment. In these cases the blood Wassermann continued persistently negative. One case (38) blood Wassermann negative at beginning, at one time became 2 +, but has since been negative., The Wassermann reaction in the spinal fluid in nine cases of this group was strongly positive. In one case (7), however, Wassermann started at negative, gradually became + and finally became 4 +, where it remained for nine months. Then the break came and finally we were able to reduce it to ± and since then it has fluctuated. Where the spinal fluid Wassermann remains strongly positive after continued treatment, we have found it extremely difficult to reduce, and it is probably the most resistent reaction to treatment. We have found that it is not wise to discontinue treatment at any time with this reaction positive. In this group, however, we were able to reduce the Wassermann to negative in a larger percentage than in the other three groups. In group 4, those who died during treatment, spinal fluid Wassermann was not influenced by treatment, although the blood Wassermann was reduced to negative in all cases except one. When treatment has been discontinued there has been a tendency for the spinal fluid Wassermann to become positive, except in those cases when treatment has been continued sufficiently long to arrest the process permanently.

(To Be Continued.)

Proceedings of Societies.

AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION.

PROCEEDINGS OF THE SEVENTY-FIRST ANNUAL MEETING.

FORTRESS MONROE, VA., TUESDAY, MAY 11, 1915.
FIRST SESSION.

The Association convened at 10 a. m. in the Convention Hall of the Hotel Chamberlin, Fortress Monroe, Va., and was called to order by the President, Dr. Samuel E. Smith, of Richmond, Ind.

THE PRESIDENT.—The Association will please come to order. I have the honor to declare the Seventy-first Annual Meeting of the American Medico-Psychological Association now in session.

We will hear the invocation by the Rev. A. A. Pruden, chaplain at Fortress Monroe, Va.

Major Pruden then offered the invocation.

THE PRESIDENT.—Governor Stuart, of Virginia, is unavoidably absent this morning, but we have a representative of this great commonwealth of Virginia, who will say a few words of welcome. This gentleman is well known throughout the State of Virginia and the surrounding country; he has taken a prominent and active part particularly in the uplift of mankind and has given some attention to the cause we are interested in—the treatment of insanity. I have great pleasure in presenting to you Hon. Harry R. Houston, of Hampton, Va.

MR. HOUSTON.—*Mr. President, Members of the American Medico-Psychological Association, Ladies and Gentlemen:* I wish to preface my few remarks by extending to you, on the part of the State of Virginia, the "glad hand," or rather, express to you that well-known phrase, "Welcome to our city." I would also preface this address by thanking the chairman and members of your Committee on Arrangements for the kind partiality they have shown in the honor of asking me to deliver a welcome from the Old Dominion, and particularly from this section of the Old Dominion, Tidewater Virginia.

You will observe on your program, and gather from what has been said by your President, that I was really intended as "second in command"

on this occasion. When I accepted the invitation, I thought I would be like what is described of the Western country where the air currents are a little treacherous. Out there when there is to be a balloon ascension they send up small balloons first, in order that they may test the air currents before the main ascension. This I presumed would be my province this morning—simply as an atmospheric tester for Governor Stuart; but, as has been explained to you, he was unavoidably detained, and so we will have to look upon it as did the old colored man when the lightning struck his barn—he said, "God moves in a 'mischeevious' way his blunders to perform."

It is quite an honor to stand here, even if second in command, and give you the message which the Governor of our state was invited to deliver, but it is a still greater honor and pleasure to address such a prominent and intelligent body of men as compose this Association assembled here to take counsel in a work which our commonwealth regards as one of the greatest that is carried on within its borders. It is not a theoretical "uplift," but one of those problems of dire necessity which confront every commonwealth and which, to a greater or less degree, are carried on by our ablest and best physicians, in many instances at a sacrifice. So I congratulate you upon your mission and tell you that I appreciate being able to speak to you.

Now, again, I deliver to you a welcome from the State of Virginia. The hospitality of Virginia has been noted for centuries, and so there may be little said on that subject. I am indeed sorry, however, that the Governor is not here to tell you of Virginia in all of its phases, because the first work the Governor of Virginia has to perform is to write a speech upon Virginia. He generally prepares this before he prepares his message to the Assembly. These eloquent addresses go over, page by page, the great history of Virginia. Of all the Governors of Virginia that I recall, I believe I like ex-Governor Swanson's speech the best, perhaps because I know it nearly by heart; it was delivered 43 times at the Jamestown Imposition—I mean, Exposition. It is extremely unfortunate, therefore, that we do not have the privilege of hearing one of these masterpieces on Virginia.

We can talk about Virginia at county fairs, etc., without fear of successful contradiction, but when you speak of Virginia as the biggest state in the country, in a gathering like this, there is likely to be some one from the Lone Star State who will get up later on and tell us about Texas; and when you speak of Virginia as the richest state, some one from New York or Pennsylvania is likely to take exception to it. We have the particular distinction of being the mother of states and the mother of statesmen, but some are even trying to take this from us. There is one thing, however, that we can agree upon, and that is the quality, if not the quantity, of the people of Virginia, or rather, the people that compose that great family known as Virginians, wherever they may live. It is difficult to find a man anywhere in the United States who will not tell you that Virginia was his mother's state or his father's state, or that, through

some ancestry, he goes back to old Virginia. As I have traveled about in the North, West and South, I have always found people in every audience who would join in that chorus:

"Carry me back to Old Virginia—
There's where the cotton, corn and sweet potatoes grow;
There's where the birds warble sweetly in the Springtime;
There's where this good old darkey's heart longs to go."

We might all agree, however, that this is the best section of the State of Virginia, here at Old Point Comfort. (This, incidentally, is where I live.) It was here, about 308 years and 10 days ago, the first Anglo-Saxons landed in this country, and right at this spot where you sit to-day, or perhaps within a stone's throw of it, the first Anglo-Saxons set foot upon American soil, and there planted the first permanent Anglo-Saxon settlement, which has continued from that day until this in the form of a little city by the name of Hampton, formerly the old Indian village of Kecoughtan. Now, Hampton at that time was a very large city. It is a thriving and important center to-day, but in those days, like all Gaul, it was divided in three parts. There was Hampton, North Hampton and South Hampton. South Hampton extended from Cape Henry to St. Augustine, Fla., and North Hampton extended from Cape Charles to the North Pole!

As we gather here our minds naturally turn, therefore, to that scene when our forefathers set foot on this soil and were extended so cordial a welcome by the Indians who inhabited this shore. And this is the welcome I would give to you to-day, as you come from all the states to one of the original shires on the shores of Tidewater Virginia, at Old Point Comfort.

I would not take up your time by telling you of all the things that have occurred here, because the history of Hampton is almost the history of Virginia, and the history of Virginia is almost the history of the United States. We do not live in the past, anyway. We are actively engaged in the affairs of the day, looking forward with confidence to the future. You will find about Hampton many places of interest and many thriving industrial communities.

Now, my friends, to this beautiful country I extend you a most cordial welcome. I sincerely trust that as you go away you will take with you what most surely you will leave behind—pleasant recollections of a delightful stay and a longing to return again. [Applause.]

THE PRESIDENT.—We have another gentleman with us this morning, Mr. Robert Gilliam, a member of the Board of Directors of the Central State Hospital, at Petersburg, Va.; if he will come forward we will be pleased to hear his word of welcome. I should say, before Mr. Gilliam begins his remarks, by way of introduction, that he has been for some thirty years a member of the Board of Directors of the hospitals for the insane of Virginia, the longest record, I think, which has ever been made in the commonwealth. He has manifested an active interest in the cause of the unfortunates of the State of Virginia, and we are much pleased to receive him here this morning.

MR. GILLIAM.—*Mr. President, and Gentlemen of the American Medico-Psychological Association:* I regret very much that I was unable to be here at the opening of your session; I regret that I had the misfortune of not hearing Mr. Houston's remarks. Possibly what I may have to say to you will sound like a "twice told tale." However, gentlemen, I will have to do the best I can under the circumstances.

Your President has said that I have been connected with the hospitals of Virginia for about 30 years. I have been for more than 27 years a director of the Central State Hospital of Virginia, at Petersburg.

Alone to my 27 years of service as a member of the Board of Directors of the Central Hospital of Virginia can I attribute the honor conferred upon me to extend to you to-day the greeting and welcome of the Commissioner and General Board of Directors of the State Hospitals of Virginia; a welcome to that section of Virginia where the first permanent settlement of English-speaking people was planted; a welcome to the "Cradle of the Republic."

On the 26th of April, 308 years ago, English colonists to the number of 105, in three little ships, *Discovery, God Speed* and *Susan Constant*, of the total burden of 160 tons, and under the command of Captain Christopher Newport, after a long and tempestuous voyage, sailed into "The Mother of Waters"—the Chesapeake Bay, through the Virginia Capes; to the northern of which they gave the name of Charles, and the southern Henry, after the sons of King James the First.

Among these colonists were Bartholomew Gosnold, the promoter and mainspring of the expedition; that famous chevalier, John Smith, who was to become the "soul of the enterprise" and the "founder of Virginia"; Rev. Robert Hunt, a devout clergyman, who was to plant the church in the Old Dominion, and with them many other worthies.

On coming into the bay they first landed near Cape Henry, where they were saluted by the Indians with a shower of arrows; to which they responded with a volley from their "fusees," and retired to their boats. Sailing along the southern shores of the bay, they again landed, for a little while, near Sewell's Point, the site of the Jamestown Exposition, just opposite to us. Then they discovered "Point Comfort," where you now sit, and floating into the cove just southwest of us, were met by five of the natives, who invited them to their town—Kickotan, now the site of Hampton, which you visit to-morrow. Here they were feasted with cakes made of Indian corn and, as an old author says, "regaled with tobacco and a dance." From Kickotan their little barks were wafted by the gentle breezes of a southern Spring up that beautiful river—Powhatan, to which was given the name of James, in honor of the King.

About 30 miles up this lovely stream, on the 13th day of May, Anno Domini 1607, in the reign of His Majesty James I, a landing was made on what was then a peninsula—now an island. This they named Jamestown, and here the first settlement took place and the seat of government was established, and here it remained till 1698.

About seven miles inland from this point, at Williamsburg, the new capital, in November, 1769, by an act passed by the "Governor, Council and Burgesses of the General Assembly of Virginia," was founded and established the first public hospital in America "for the support and maintenance of idiots, lunatics, and other persons of unsound mind." The corporation was styled: "The Court of Directors of the Public Hospital for Persons of Insane and Disordered Minds." Twelve hundred pounds were appropriated for buildings, and £25 per annum for the support of each patient.

There were in 1845, says an old historian, "always above an hundred inmates of this hospital." At that time a distinguished alienist, Dr. J. M. Galt, was superintendent.

In 1825 an act was passed establishing another hospital, which is located at Staunton. Of this Dr. Francis T. Stribling was superintendent.

By an act of November 5, 1870, the Central State Hospital for the care of the colored insane was created. This was located temporarily at Richmond—is now at Petersburg. Later the Southwestern, of which the lamented Dr. R. J. Preston, a former President of this Association, was, at the time of his death, superintendent.

In 1910 the State Epileptic Colony, of which Dr. A. S. Priddy is superintendent, was established at Lynchburg. This colony and our hospitals at Williamsburg, Staunton, Marion and Petersburg are doing fine service. The superintendents are experienced men and well trained in their line of work.

There are about 5000 patients in our hospitals. Although some are crowded, all the certified cases of insanity, white and colored, are promptly taken into one or the other of the five hospitals, none being allowed to linger in jail. Many years ago mechanical restraint of all kinds was abolished. Diversional occupation holds a prominent place in the treatment of our patients. Separate provision has been made for the criminal insane, and at each institution the tubercular cases are treated in separate buildings.

Our commitment laws insure voluntary and emergency commitment, and all proceedings regarding commitment are simple.

The medical staffs of the institutions have an organization, meeting twice a year, for the purpose of keeping abreast of the times in those matters in which they are especially interested, and a movment has been inaugurated to organize a State Society for Mental Hygiene.

Steps have been taken looking to the publication of a quarterly, the chief aims of which will be to disseminate proper knowledge regarding prevention of insanity, feeble-mindedness, etc., and to urge early treatment, proper fore-care, after-care, etc.

Under the control of a General Board of Directors, a Commissioner, and Special Boards of Directors, the institutions are conducted economically and in a business-like, uniform and efficient manner. A number of these directors, all the superintendents, and some of the assistant physicians,

are *here*, to learn more about insanity and hospital management and to welcome those who have come from other institutions.

Our hospitals are not magnificent structures, nor are they splendidly equipped, but they give kindly care and good treatment to *all* Virginia citizens who seek their shelter, and without cost to them. The past 20 years has witnessed a new awakening in the care of the insane; during that time great advances have been made.

Mr. President, this Association is the oldest national medical society in the country. Since its organization, in 1844, it has been the chief means of spreading, through its members, knowledge regarding the best methods of care and treatment of the insane. This society of nearly 1000 alienists, representing every part of Canada and the United States, has always stood for progress in scientific psychiatry, and in the humane care of the insane, state care, etc. A Virginia superintendent, Dr. Francis T. Stribling, was one of the trio, Dr. Woodward, of Massachusetts, and Dr. Awl, of Ohio, being the others, who were instrumental in bringing about the organization of the society, and the before mentioned Dr. J. M. Galt, another distinguished Virginia superintendent, was one of the original 13 charter members. Two other Virginia superintendents, Dr. R. J. Preston and Dr. W. F. Drewry, have been Presidents of the Association, and the forebears of several of your most eminent members were Virginians. This is true of the present President (Dr. S. E. Smith).

The presence here of distinguished representatives from other states who are engaged in the care and treatment of the insane and the management of institutions, public and private, means much to our people, especially to us who are connected with our state institutions.

What is said and done at this convention will reach the people's ear and further enlighten and encourage us to go forward to better things than ever for our insane, epileptics, and mentally subnormals.

Mr. President and gentlemen of the Association, you are cordially invited to visit, during your stay in Virginia, all of our state hospitals. At all of them you will receive the same hearty welcome that is extended you here to-day.

May your visit be an inspiration to us to go forward with the good work committed to our charge, and, if I may be permitted to paraphrase an old verse,

> Long may you live in health and peace,
> And every hour your joys increase.
> To this let every swain and lass
> Take sparkling, brimming, flowing glass,
> Then join the sprightly dance, and sing
> Welcome our guests and the joy they bring.

I thank you very much, gentlemen, for your attention. [Applause.]

THE PRESIDENT.—The Association thanks the distinguished gentlemen for their words of cordial welcome to the Old Dominion State. That we have a pleasing memory of its hospitality is evidenced by the fact that we

come for the fourth time to this great Commonwealth of Virginia, and for the second time to this historic spot of Old Point Comfort, to find a congenial meeting place. While we are here primarily for some earnest work, we are not averse to a little play, because we have been told recently by a distinguished confrere that, among other things, men live by work and play. You are, therefore, at liberty to proceed with your hospitable entertainment, and I assure you that the members of the Association will receive it warmly or coldly, as you may present it, with open minds and—mouths. And if, perchance, there should be any conflict of the two programs I shall deem it my bounden duty to appoint the Vice-President and a committee of three to look after the work while the remainder of us shall constitute a committee on *reception of entertainment*.

We are indeed happy to come to Virginia, which has made so much history, important in the annals of American government and development, and whose romance and chivalry, so beautiful and unique, have enthralled the entire English-speaking world. Some of us are here by native right and proud indeed of the Virginia blood that courses in our veins, and none of us, I am sure, feels himself a stranger in the warmth of your cordial welcome.

We come from nearly every state in the union and most of the provinces of the Canadian Dominion, with greetings of good will, and respectfully and reverently do homage to the memory of your departed men and women who, by their statecraft, courage and sacrifices made this republic possible. We come, too, with congratulations to you for preserving and maintaining so well the ideals of the fathers, for the industrial development and spirit of progress we see everywhere about us, and last, but not least, for the deep and active interest you are manifesting in the uplift of mankind as is shown by the high standard of your public charitable institutions. We are indeed happy to be here and to hold this meeting almost in the shadow of the first state hospital for the insane constructed in America; only a few miles distant is the old institution at Williamsburg, which we have been very cordially invited to visit. We are assured that our brief sojourn with you will be helpful and profitable to us, and we trust that we may so conduct ourselves in the enjoyment of the freedom and privileges you so graciously extend to us that we may be permitted to come at another time. The story is told in my own city of a son of Erin and a mechanic, who, in spite of repeated admonitions, continued to lower his efficiency by his convivial habits. The superintendent of the plant found Patrick unfit for work one morning, relieved him from duty, and later sent him a letter discharging him, and enclosing his pay-check. Pat disappeared, but at the end of five days he returned to the shop and took his place at his old machine. The superintendent soon observed him with surprise and accosted Pat by asking him why he was there. Pat said, "To work." "But," said the superintendent, "didn't you receive my letter?" "Sure," said Pat, "I received your letter." "But didn't I discharge you?" said the superintendent. "Sure," said Pat, "you did discharge me." "Well, then, why are you here?" "It is this way," said Pat; "in the letter you discharged

me all right, but printed on the corner of the envelope were the words, 'Return in five days,' and so I am here."

I hope your cordial greeting has a return superscription upon it. Again I thank you. [Applause.]

THE PRESIDENT.—The first in order will be the report of the Committee of Arrangements, Dr. Drewry, chairman.

REPORT OF THE COMMITTEE OF ARRANGEMENTS.

Mr. President, Ladies and Gentlemen: Your Committee of Arrangements unites with Mr. Gilliam, the representative of our state hospitals, and Mr. Houston, a Virginia statesman of repute, in giving you a cordial greeting. We regret that Governor Stuart was unable to be here to also extend you a welcome to this old commonwealth.

The original Committee of Arrangements, appointed by you, Mr. President, composed of the superintendents of our state hospitals, Drs. DeJarnette, Priddy, King, Brown, and the speaker, was, thanks to the State Board of Hospital Directors, enlarged by the addition of a sub-committee of their members, viz.: Messrs. Whitehead, Bohannon, West, Landes, Morgan, and Commissioner Bauserman; and Mr. Stearns, of the State Board of Charities, was also added to this committee. These, with others connected with our institutions, constitute a general reception committee to give a good time to our visiting friends.

We are pleased in having Dr. Douglas S. Freeman, a distinguished layman who is closely identified with the movement for the general uplift, to make the annual address to-morrow evening.

With the approval and co-operation of your Program Committee, we have provided for some social entertainment that will, we trust, divert your minds for the time being from the weighty scientific papers and discussions, and give you a few carefree moments.

By courtesy of the commanding officer of Fortress Monroe, we have been invited this afternoon to visit the coast batteries and afterwards witness a regimental parade on the splendid parade grounds. Cars conveying us to the batteries will leave at 4 o'clock, a point a few hundred yards from the hotel.

To-morrow, Wednesday afternoon, the committee has provided for a boat ride on Hampton Roads. The boat *Endeavor* will leave the dock near the hotel at 2.30 o'clock, and return about 6 o'clock. You will see on the trip one of the finest harbors in the world, and get a glimpse of some points of historic interest; such as the Rip Raps, the site of the naval battle between the *Monitor* and the *Merrimac*, the National Soldiers' Home, etc. By courtesy of Mr. Palen, assistant general manager of the Newport News Shipyard, a 30-minute stop will be made to see that great plant.

Wednesday evening, following Dr. Freeman's address, there will be a reception to the orator of the occasion and the President. After the reception we will be the guests of the hotel. There will be dancing.

Thursday, the officers of the Hampton Normal and Agricultural Institute have invited us to their institution and will tender us an entertainment in which the performers will be from the student body. It is worth your while to see this great institution, where several hundred young colored people and some Indians are being trained to useful citizenship. Special cars, leaving from the front entrance of the hotel at 11.30, will convey the members to and from the institute, leaving there about 1.30 p. m., returning to the hotel in time for lunch.

The Virginia and the Borough Clubs and the Business Men's Association in Norfolk have extended to our members and their guests the privileges of their clubs.

Upon registration each member of the Association and each guest, including, of course, the visiting ladies, whom we are especially glad to have with us, will be given cards simply as reminders of the entertainments. Identification badges will also be given to the members of the Association.

The Committee of Arrangements wishes to thank the managers of the Hotel Chamberlin, the officers of Fortress Monroe, and those of the Hampton Institute, for their assistance in connection with the social and other features of this meeting. The committee also takes this occasion to express its appreciation of the cooperation and aid on the part of the officers of the Association, and of the Maryland Psychiatric Quarterly, in the "Old Point" issue.

Respectfully submitted,

W. F. DREWRY, *Chairman.*

THE PRESIDENT.—The Committee of Arrangements has certainly given us a very full program, and it may be necessary to appoint the committee referred to a moment ago.

On motion, the report of the Committee of Arrangements was accepted and adopted.

THE PRESIDENT.—It is now in order to hear the report of the Council, by the Secretary.

REPORT OF THE COUNCIL TO THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION.

FORTRESS MONROE, VA., May 11, 1915.

The Council met on the evening of May 10, 1915, at the Hotel Chamberlin, Fortress Monroe, Va.

The Council has received and transmits herewith the report of the Treasurer for the current year; also a statement of the membership of the Association to date.

The Council recommends for election to active membership the following named physicians. This list was presented to the Association a year ago, and these names are now submitted for final consideration:

Albert Anderson, M. D., Raleigh, N. C.; Paul V. Anderson, M. D., Richmond, Va.; F. A. Carmichael, M. D., Osawatomie, Kans.; J. Henry Clark, M. D., Newark, N. J.; O. H. Cobb, M. D., Syracuse, N. Y.; Guy L. Connor, M. D., Detroit, Mich.; Herbert C deV. Cornwell, M. D., New York, N. Y.; W. D. Deuschle, M. D., Columbus, O.; H. H. Drysdale, M. D., Cleveland, O.; S. J. Fort, M. D., Baltimore, Md.; Andrew C. Gillis, M. D., Baltimore, Md.; James K. Hall, M. D., Richmond, Va.; Robert Henry Haskell, M. D., Ionia, Mich.; Kenneth B. Jones, M. D., Baltimore, Md.; William A. Jones, M. D., Minneapolis, Minn.; Frank W. Keating, M. D., Owings Mills, Md.; Grover A. Kempf, M. D., New York, N. Y.; Alfred O. Lewis, M. D., Philadelphia, Pa.; Hersey G. Locke, M. D., Syracuse, N. Y.; John T. MacCurdy, M. D., New York, N. Y.; Convas L. Markham, M. D., Amityville, N. Y.; Eugene H. Mullan, M. D., Ellis Island, N. Y.; Michael Osnato, M. D., New York, N. Y.; Charles E. Ross, M. D., Wichita, Kans.; Charles F. Sanborn, M. D., Cincinnati, O.; Carl W. Sawyer, M. D., Marion, O.; Haigt Sims, M. D., Montreal, Que.; L. Gibbons Smart, M. D., Lutherville, Md.; Wesley Taylor, M. D., Detroit, Mich.; Walter C. Van Nuys, M. D., New Castle, Ind.; J. F. Wen Glesky, M. D., Milwaukee, Wis.; Harold W. Wright, M. D., Santa Barbara, Cal.; Ernest H. Young, M. D., Kingston, Ont.

The Council recommends the transfer of the following named associate members to the active class:

G. E. Hatcher, M. D., Cerulean, Ky.; Sylvester R. Leahy, M. D., Brooklyn, N. Y.; Herbert Lee, M. D., St. Joseph, Mo.; James Gordon McKay, M. D., New Westminster, B. C.; James H. Randolph, M. D., Jacksonville, Fla.; A. Warren Stearns, M. D., Boston, Mass.

The Council recommends that the following named physicians be elected to associate membership:

Frank S. Bachelder, M. D., Pontiac, Mich.; Freeman R. Bannon, M. D., Richmond, Ind.; Blinn A. Buell, M. D., Binghamton, N. Y.; H. G. Clarke, M. D., Boyce, Pa.; Wm. Alfred Conlon, M. D., Central Islip, N. Y.; A. S. Cooper, M. D., Jackson, La.; A. Burton Eckerdt, M. D., Warm Springs, Mont.; W. A. Ellison, M. D., Milledgeville, Ga.; Edward H. Ende, M. D., Central Islip, N. Y.; T. W. Evans, M. D., Jackson, La.; Elias Fischbein, M. D., Sonyea, N. Y.; Ralph P. Folsom, M. D., New York, N. Y.; Howard M. Francisco, M. D., Nashville, Tenn.; S. H. Frank, M. D., Boyce, Pa.; Wm. C. Garvin, M. D., New York, N. Y.; Harold I. Gosline, M. D., Hathorne, Mass.; David K. Henderson, M. D., Baltimore, Md.; Charles S. Holbrook, M. D., Jackson, La.; Earl K. Holt, M. D., Logansport, Ind.; Marion E. Kenworthy, M. D., Gardner, Mass.; G. S. Llewellyn, M. D., Boyce, Pa.; James F. McFadden, M. D., Foxborough, Mass.; George A. MacIver, M. D., Worcester, Mass.; B. Henry Mason, M. D., Worcester, Mass.; Harlan P. Mills, M. D., Phoenix, Ariz.; Philip B. Newcomb, M. D., Osawatomie, Kans.; Alton L. Smiley, M. D., Pueblo, Colo.; Edith R. Spaulding, M. D., Sherborn, Mass.; Annie E. Taft, M. D., Boston, Mass.; Melvin J. Taylor, M. D., Poughkeepsie, N. Y.; Charles W. Thompson, M. D., Pueblo, Colo.; E. Mabel Thomson, M. D.,

Sonyea, N. Y.; Douglas A. Thom, M. D., Palmer, Mass.; George Allen Troxell, M. D., Medfield, Mass.; Bernard McHugh Cline, M. D., Milledgeville, Ga.; Fred L. Darrow, M. D., Richmond, Ind.; Mary Wickens, M. D., Richmond, Ind.

The Council has received the following applications for active membership. In accordance with the constitution, final consideration of these will be deferred until next year:

Jau Don Ball, M. D., Oakland, Cal.; George S. Bliss, M. D., Fort Wayne, Ind.; E. A. Farrington, M. D., Haddonfield, N. J.; Lewis M. Gaines, M. D., Atlanta, Ga.; A. P. Goff, M. D., Manila, P. I.; Thomas H. Haines, M. D., Columbus, O.; Charles W. Halterman, M. D., Weston, W. Va.; Ralph L. Hill, M. D., Woodville, Pa.; George E. Hyde, M. D., Blackfoot, Idaho; James W. MacNeill, M. D., Battleford, Sask.; James W. Milligan, M. D., Michigan City, Ind.; Michael J. O'Meara, M. D., Worcester, Mass.; H. Douglas Singer, M. D., Kankakee, Ill.; Jeannette F. Throckmorton, M. D., Charlton, Iowa; C. F. Williams, M. D., Columbia, S. C.; Frankwood E. Williams, M. D., Boston, Mass.; Hansell Crenshaw, M. D., Atlanta, Ga.

The Council has received the resignations of the following members, and recommends that they be accepted in so far as their dues are paid:

Wm. W. Coles, M. D., Keene, N. H.; John J. Harrington, M. D., New York, N. Y.; Wallace W. Knowlton, M. D., Boston, Mass.; Guy G. Fernald, M. D., Concord Junction, Mass.; Thomas Littlewood, M. D., Pittsfield, Mass.; Horace Phillips, M. D., Philadelphia, Pa.; Nelson W. Thompson, M. D., New York, N. Y.; A. W. Thomson, M. D., Poughkeepsie, N. Y.

The Council recommends that the name of Dr. Albert M. Cross, of Evansville, Ind., be dropped from the membership list of the Association, for conduct unbecoming a member.

The Council also recommends that when papers published in the AMERICAN JOURNAL OF INSANITY contain illustrations, tables, etc., the authors be required to pay the excess over ordinary printing, and three-fourths of the cost of the illustrations.

The following is a statement of the membership of the American Medico-Psychological Association to date:

HONORARY MEMBERS.

Former number	19	
Admitted	1	
Died	2	
Present number		18

LIFE MEMBERS.

Present number	17

ACTIVE MEMBERS.

Former number	452	
Associate to active	13	
Admitted	24	
Active to life	17	
Resigned	11	
Dropped	1	
Died	6	
Present number		454

ASSOCIATE MEMBERS.

Former number	250	
Admitted	59	
Associate to active	13	
Resigned	3	
Dropped	1	
Died	3	
Present number		289
Total membership May 7, 1915		778

Respectfully submitted,

CHARLES G. WAGNER, *Secretary.*

THE PRESIDENT.—You have heard the report of the Council, what is your wish in regard to it?

DR HENRY M. HURD.—I move that the report of the Council be accepted and adopted.

Seconded.

DR. WM. A. WHITE.—I have no objection to the adoption of the report, with the exception of that portion which refers to the matter of printing illustrations with articles in the JOURNAL OF INSANITY.

THE PRESIDENT.—Dr. Brush will you explain the matter?

DR. BRUSH.—What is it that it is desired to be explained?

THE PRESIDENT.—The matter of printing illustrations accompanying papers in the JOURNAL OF INSANITY.

DR. BRUSH.—We get papers that are accompanied by long tables which require large expenditure in their reproduction and it seems to me no more than fair that the gentlemen who wish to embellish their articles with illustrations, or who wish to present long tables, should pay for the illustrations a certain proportion of the expense, and for the tables the excess in cost over a page of ordinary composition. It is a matter of no consequence whatever to the editors of the JOURNAL; the JOURNAL is the property of the Association, but the editors are trying to continue the

JOURNAL so as to make it a paying proposition. If we were to publish some of the manuscripts that have been sent to us, the cost for a single article would be more than the cost of the publication of a single number of the JOURNAL. It is obviously up to the Association to say whether it will take money out of the treasury and pay the deficit which is bound to occur, for the publication of the JOURNAL, or ask these gentlemen, who sometimes present illustrations that are very desirable, but who occasionally present illustrations in excess of what is really desirable or necessary to illustrate their article, to bear a portion of the cost. I have in mind an article by a gentleman, not a member of this Association, who felt very much hurt because I wrote him that I should be very glad to publish the illustrations if he would pay for them.

DR. BANCROFT.—I think it is true there may be a tendency on the part of some to present illustrations which are not necessary in connection with the subject with which they deal, and I think it should be the duty and right of the editors of the JOURNAL to discard some of the illustrations just the same as they have the right to discard a whole communication; it is of course a matter of principle. The expense is probably in no case very considerable. It seems to me that the Association could save money in other ways rather than by curtailing the freedom of presenting material in any form which is thought best.

DR. MABON.—I endorse what Dr. Bancroft says. It seems to me it will lessen the value of the JOURNAL OF INSANITY if we take action of this kind. The matter is in the hands of the editors and they should exercise the powers of the Association.

DR. EVANS.—I think the point taken by the last gentleman who spoke is well taken. It would seem that this would put a check upon the publication of some of our most valuable articles. I have no doubt Dr. Brush has gone into this matter very carefully, and that he has established to his own satisfaction the fact that a good many illustrations come in that might fittingly and properly be omitted, but it is highly important that papers which need illustrations should have illustrations and that such articles should be encouraged in our JOURNAL. There is no mention made of a condition such as this: If a writer furnishes inserts whether they would be received and incorporated into the report without any additional cost. I presume Dr. Brush could answer that. A number of the hospitals have their own printing outfits and are equipped to get out any little inserts. It would be a good point to know this. Most of the other journals do that.

DR. BRUSH.—It goes without saying if a man furnishes his own illustrations it will not cost the JOURNAL anything except in binding or printing. As to the majority of our illustrations in the JOURNAL, I doubt if any hospital has the facilities for making them, and the editors would not feel justified in using illustrations which did not come up to the standard the JOURNAL has established. Dr. White is the only editor that furnishes

half-tone illustrations, and I know of practically none that furnish any kind of illustrations unless they are paid for.

Dr. Henry M. Hurd.—There are illustrations and illustrations. I would urge against putting an insert in; I should prefer to have the Association go bankrupt than to have that done. The great expense comes with illustrations that require lithographing. The great majority of those who make the colored illustrations become unduly enamored of them.

They think the colors themselves are most remarkable and forget that the colors exhibited are just as artificial as anything else in the staining for the microscope; that the color is not the actual thing as represented. When they see the different colors which seem very artistic they feel as though the tissues looked the same. This artificial coloration is what costs. If the members of the Association would be satisfied to have black and white illustrations there would be less said about the cost, but these illustrations in many colors are very expensive; I have known of such illustrations that cost from $300 to $500. When I was editor of the publications of The Johns Hopkins Hospital, I always published the illustrations without expense to the authors, but I generally had a quarrel with them to keep from bankruptcy.

Dr. Work.—It is very evident that these members who have spoken feel that the Chair is in need of enlightenment, and that the purpose of their remarks is solely to enlighten the Chair. We are unable to hear anything that has been said, with one or two exceptions.

Dr. Brush.—I think it should be said in justice to several members who have published illustrations, that they have freely made the suggestion that they bear a proportion of the cost of preparation of the plates. I have in my hand at present a bill for one number of the Journal, and the illustrations cost exactly one-fourth of what it cost to publish that number of the Journal. The gentleman who furnished that article made no objection to paying one-half the cost.

Dr. C. B. Burr.—I move that that portion of the report referring to the publication of illustrations in the Journal be referred to the editors of the Journal, with the expression that it is the sense of the Association that colored illustrations should be paid for by the authors of papers.

Motion seconded.

The President.—This motion, I presume, will be in the nature of an amendment to the original motion by Dr. Hurd?

Dr. Hurd.—Yes.

The President.—I would like to say that it might have been better had the Treasurer's report been presented before this discussion took place. However, that will come later. The Chair feels, also, that the editors of

the JOURNAL should be allowed to exercise certain discretion in matters of this sort, but I do believe that this discussion, following the report of the Treasurer, would have been briefer.

You have heard the amendment, what is your wish?

Carried.

THE PRESIDENT.—What will you do with the original motion by Dr. Hurd, as amended, to adopt the report of the Council?

Carried. The names proposed for election and transfer to come up to-morrow.

THE PRESIDENT.—We will now hear the report of the Treasurer.

REPORT OF TREASURER, 1914-1915.

DEBITS.

Balance on hand June 1, 1914	$3,216.56
Received for dues:	
Active members	1,985.00
Associate members	525.00
Advance dues	13.00
Interest on bank deposits	64.88
Gummed lists of members	9.00
Copy of Transactions	2.00
Refund on express bill (E. S. Graney)	.25
Subscription to the American Journal of Insanity	3.00
Discount	.45
Total	$5,819.14

CREDITS.

1914		
June 2.	A. P. Herring, Committee on Diversional Occupation (exhibit)	$155.00
2.	Lucas Bros., registry cards	4.25
3.	Henry P. Whalen, printing ballots	3.00
5.	Charles G. Wagner, telegrams and messenger service at Baltimore meeting	5.75
10.	Edward N. Brush, index account	50.00
10.	Margaret M. Bloxham, expenses as stenographer at annual meeting 1914	49.56
22.	Edward S. Graney, telegrams and express	5.03
July 1.	Henry M. Hurd, History account	168.30
2.	O. P. Chase, postage and carfare	4.10
11.	The Lord Baltimore Press, Transactions and list of members	1,000.00
Aug. 14.	Henry P. Whalen, stamped envelopes and printing	49.91
28.	Henry P. Whalen, printing bill-books	7.50

Sept. 3.	The Lord Baltimore Press, balance on acct	$ 108.01
Oct. 6.	Edward N. Brush, subscription to American Journal of Insanity (Joseph W. Moore)	3.00
14.	Henry P. Whalen, printing circulars and envelopes	6.00
Dec. 24.	Clerical services	10.00
24.	Arthur F. Kilbourne, refund on gummed list	.50
29.	O. P. Chase, postage and carfare	2.08
1915		
Jan. 26.	Stamped envelopes	21.08
Feb. 10.	Henry M. Hurd, History account	179.11
25.	Margaret M. Bloxham, reporting and typewriting proceedings annual meeting 1914	100.00
Mar. 1.	Henry P. Whalen, printing preliminary program, applications, letters, etc.	36.75
18.	O. P. Chase, postage and carfare	30.15
Apr. 19.	E. S. Graney, telegrams	1.00
19.	Charles G. Wagner, telegrams, telephone, carfare and messenger	5.00
19.	Postage	8.00
24.	Henry P. Whalen, printing programs, envelopes, letters and notices	87.40
30.	Margaret M. Bloxham, services as stenographer, May, 1914, to May, 1915	100.00
30.	Protested check (Dr. Albert M. Cross)	2.00
30.	O. P. Chase, clerical services for year to May 10, 1915	35.00
May 5.	Henry M. Hurd, History account	296.38
	Balance on hand as follows:	
	City National Bank, Binghamton, N. Y.	1,866.42
	Emigrant Industrial Savings Bank	1,418.86
	Total	$5,819.14

Respectfully submitted,

May 7, 1915. CHARLES G. WAGNER, *Treasurer.*

THE PRESIDENT.—Unless there is objection, the report of the Treasurer will go to the Auditors.

THE PRESIDENT.—The next in order is the report of the Editors of the AMERICAN JOURNAL OF INSANITY, by Dr. Brush.

To the Members of the American Medico-Psychological Association, Gentlemen: I beg on behalf of the Editorial Board of the AMERICAN JOURNAL OF INSANITY to report that the JOURNAL is in a prosperous condition. The volume which has just closed, Volume 71, comprises over 800 pages, and the contents have been of unusual interest and have attracted in the way of notices and abstracts in other periodicals both at home and abroad more than usual attention.

Considering the fact that during the year we have paid for five numbers —including in this the extra number containing the addresses at the opening of the Henry Phipps Psychiatric Clinic—the financial status of the JOURNAL is good. Our receipts from advertisements have fallen off some, but the receipts from subscriptions have increased more than $400.

Notice had been repeatedly called to the expense entailed in the reproduction of illustrations sent with articles for publication and of tables which frequently form part of articles, the expense of composition of which is more than double the cost of typesetting for an ordinary page.

By vote of council last evening the editors were empowered to require from authors who wish illustrations the payment of a proportionate part of the cost of preparation of plates and the excess cost over ordinary composition for the composition of tables.

Authors should also remember that the cost of new material added to proof or of corrections other than ordinary correction of printer's errors is large, and see that their manuscripts are sent to the JOURNAL in the exact form they are to appear.

Attention is also again called to the fact that by resolution of the Association, papers read at its meetings are the property of the Association and cannot be published except by permission of the Council.

The editors are occasionally asked to waive this rule, which of course they cannot do, nor indeed have they any desire to do so. They are also asked to publish papers which have been, without permission of the Council, given publication elsewhere. This they have declined to do, as they do not desire to present matter which the JOURNAL has not been accorded the courtesy of priority of choice and publication. In this decision they believe the Association will support them.

The authors of papers are again urged to place their manuscripts at once in the hands of the Secretary—and those who discuss papers to read, correct, and at once return, the stenographic report of their remarks.

The editors often desire to publish with papers the reports of discussions—but, alas, are unable to do so by reason of the neglect and apparent indifference of those who should at once return the stenographic notes sent for their inspection.

I transmit herewith the vouchers showing the receipts and expenditures for the year.

Respectfully submitted,

EDWARD N. BRUSH.

THE PRESIDENT.—You have heard the report of the Editors of the JOURNAL.

DR. HENRY M. HURD.—I move it be accepted and the financial report referred to the Auditors.

Motion duly seconded and carried.

THE PRESIDINT.—I will call call for the report of the Committee on History of Institutional Care of the Insane in the United States and Canada, Dr. Hurd, chairman.

To the American Medico-Psychological Association: In behalf of the Committee on "The Institutional Care of the Insane in the United States and Canada," I would make the following report:

1. At the last meeting the committee recommended to the Council that authority be given to publish the first volume of the "History," as it was in a sufficient state of forwardness, but upon considering the whole situation it was found impossible to adequately describe the book or to give subscribers a definite idea of what expense they were to incur for the whole work. It accordingly seemed best to finish all the volumes so as to get estimates on the total cost of printing the same, before sending out circulars to such institutions, individuals and libraries as were likely to subscribe for copies.

The labor of compiling and completing the work has been very arduous, and there have been serious delays in securing material, but not as much as one would anticipate when it is remembered that the material must come from more than 50 states and dependencies in this country alone, and several hundred institutions.

2. The committee now has data respecting the work and can state definitely that it will comprise four volumes of about 500 pages each, corresponding in paper, typography and general appearance with the TRANSACTIONS as at present published, but differently bound and distinctively lettered.

3. Proposals for cost of printing have now been obtained from three large and responsible firms, who have bid upon the preparation of the same volume. The lowest bidder is the Lord Baltimore Press in the sum of $1146 per volume for an edition of 1000 copies of about 500 printed pages, bound in cloth and ready to deliver.

If illustrations are inserted, and they should be, the illustrations for each volume will cost about $240, provided there are 25 illustrations to each volume. The four volumes, of course, will altogether cost in the neighborhood of $5000. The committee would recommend that the price for the four volumes be fixed at $10, and that a discount of 20 per cent be given to members of the Association and to institutions represented by them, which will make the book cost $2 per volume. And that the committee be authorized to send out immediately a prospectus and circulars giving tables of contents and return postal cards widely, asking for subscriptions.

4. The committee would suggest that reprints of articles desired by authors of different histories be given at actual cost.

5. Also that authority be given the committee to begin publication at once, and that the remittances received may by used by the Treasurer to pay the expenses of publication so that the profits if any, may go to the Association to reimburse it for the expenses incurred.

The committee is to be congratulated on the fact that the work of compilation is nearly over, and that the material required to fill in gaps is comparatively small. It also desires to express very grateful appreciation for the cooperation and labor of those who have assisted in the preparation of the "History."

The chairman of the committee is aware that he has been a thorn in the flesh to many members of the Association by reason of his persistent and more or less constant importunities. He desires to apologize for this persistence and to say that there seemed no other manner in which he could obtain the desired histories.

The work of printing the first volume can go on systematically during the present Summer.

Very respectfully submitted,

HENRY M. HURD,
In Behalf of Committee.

DR. HENRY M. HURD.—I move that this whole matter of publishing the "History" be referred to the Council, with power.

Motion duly seconded and carried.

DR. C. B. BURR.—I think the Association should express its appreciation of the activity of the chairman of this committee.

THE PRESIDENT.—Dr. Burr is right. This has been a tremendous amount of work and the committee has done its work well, evidence of which will be seen in the publication which will soon go forward. I am quite sure that I voice the sentiment of every member of the Association in expressing to the chairman of this committee our appreciation of his tremendous task, which he has done so very well indeed. [Applause.]

I now wish to announce the Nominating Committee, after which we will have a brief recess for the purpose of registration. This committee will consist of the following members:

Dr. Hubert Work, of Colorado; Dr. G. Alder Blumer, of Rhode Island, and Dr. Charles G. Hill, of Maryland.

Notice is given that owing to the absence of some of the writers, papers scheduled for this evening, not requiring lantern slides, will be presented this afternoon. There has also been an addition to the program for this evening in the nature of moving picture films; one will be provided by the management of the hotel, on the subject of hydrotherapeutics, and the other comes from the New York State hospitals for the insane. We will now have a recess for the purpose of registration.

The following members registered, and were in attendance during the whole or a part of the meeting:

Abbot, Florence Hale, M. D., Assistant Physician Dr. Mellus' Private Hospital, Newton, Mass.

Allen, J. Berton, M. D., Assistant Physician State Hospital, Central Islip, N. Y.

Allen, H. D., M. D., Superintendent Allen's Invalid Home, Milledgeville, Ga.

Anderson, Albert, M. D., Superintendent Dix Hill State Hospital, Raleigh, N. C.

Anderson, Paul V., M. D., Resident Physician Westbrook Sanatorium, Richmond, Va.

Applegate, C. F., M. D., Superintendent Mt. Pleasant State Hospital, Mt. Pleasant, Ia.

Baber, Armitage, M. D., Superintendent Dayton State Hospital, Dayton, O.

Bancroft, Charles P., M. D., Superintendent New Hampshire State Hospital, Concord, N. H.

Barlow, Charles A., M. D., Superintendent Spencer State Hospital, Spencer, W. Va.

Bernstein, Charles, M. D., Superintendent Rome State Custodial Asylum, Rome, N. Y.

Blumer, G. Alder, M. D., Medical Superintendent Butler Hospital, Providence, R. I.

Brooks, Swepson J., Physician-in-Charge St. Vincent's Retreat, Harrison, Washington Co., N. Y.

Brown, Sanger, M. D., Physician-in-Charge Kenilworth Sanitarium, Kenilworth, Ill.

Brown, G. W., M. D., Superintendent Eastern State Hospital, Williamsburg, Va.

Brush, Edward N., M. D., Physician-in-Chief and Superintendent Sheppard and Enoch Pratt Hospital, Towson, Md.

Buchanan, J. M., M. D., Superintendent East Mississippi Insane Hospital, Meridian, Miss.

Burr, C. B., M. D., Medical Director Oak Grove Hospital, Flint, Mich.

Burgess, T. J. W., M. D., Medical Superintendent Protestant Hospital for the Insane, Box 2280, Montreal, Que., Canada.

Carey, H. M., M. D., Odessa, Del.

Clark, J. Clement, M. D., Superintendent Springfield State Hospital, Sykesville, Md.

Cornell, Wm. B., M. D., Executive Secretary Mental Hygiene Committee, 401 Garrett Building, Baltimore, Md.

Cotton, Henry A., M. D., Medical Director New Jersey State Hospital, Trenton, N. J.

Cozad, H. Irving, M. D., Clinical Director Fair Oaks Villa, Cuyahoga Falls, O.

Crumbacker, W. P., M. D., Superintendent Independence State Hospital, Independence, Ia.

Darling, Ira A., M. D., Assistant Physician Warren State Hospital, Warren, Pa.

Dewey, Richard, M. D., Physician-in-Charge Milwaukee Sanitarium, Wauwatosa, Wis.

Dold, Wm. Elliott, M. D., Physician-in-Charge River Crest Sanitarium, Astoria, L. I., N. Y. C.

Drewry, Wm. F., M. D., Superintendent Central State Hospital, Petersburg, Pa.

Dunton, Wm. Rush, Jr., M. D., Assistant Physician Sheppard and Enoch Pratt Hospital, Towson, Md.

Emerson, Ernest B., M. D., Medical Director Bridgewater State Hospital, State Farm, Mass.

Evans, Britton D., M. D., Medical Director The New Jersey State Hospital at Morris Plains, Greystone Park, N. J.

Eyman, H. C., M. D., Superintendent Massillon State Hospital, Massillon, O.

Faison, W. W., M. D., Superintendent State Hospital, Goldsboro, N. C.

Ferris, Albert Warren, M. D., Saratoga Springs, N. Y.

Fordyce, O. O., M. D., Superintendent Athens State Hospital, Athens, O.

Forster, J. M., M. D., Medical Superintendent Hospital for Insane, Toronto, Ont., Canada.

Frost, Henry P., M. D., Superintendent Boston State Hospital, Dorchester Centre, Mass.

Fuller, Daniel H., M. D., Senior Assistant Physician Pennsylvania Hospital for Insane, Philadelphia, Pa.

Garlick, James H., M. D., First Assistant Physician Western State Hospital, Staunton, Va.

Gilliam, Charles F., M. D., Superintendent Columbus State Hospital, Columbus, O.

Gillis, A. C., M. D., Neurologist Mercy Hospital, 914 N. Charles St., Baltimore, Md.

Givens, Amos J., M. D., Proprietor and Superintendent Givens Sanitarium, Stamford, Conn.

Gregg, Donald, M. D., Associate Physician Channing Sanitarium, Brookline, Mass.

Green, Edward M., M. D., Clinical Director Georgia State Sanitarium, Milledgeville, Ga.

Gundry, Alfred T., M. D., Medical Director Gundry Sanitarium, Catonsville, Md.

Gundry, Richard F., M. D., Medical Director The Richard Gundry Home, Catonsville, Md.

Guthrie, L. V., M. D., Superintendent Huntington State Hospital, Huntington, W. Va.

Hall, James K., M. D., Medical Superintendent Westbrook Sanatorium, Richmond, Va.

Hancker, Wm. H., M. D., Medical Superintendent Delaware State Hospital, Farnhurst, Del.

Harrington, Arthur H., M. D., Superintendent State Hospital for the Insane, Howard, R. I.

Harding, George Tryon, Jr., M. D., 318 E. State St., Columbus, O.

Hasking, A. P., M. D., Official Examiner Hudson Co., N. J., Indigent Insane, Court House, Jersey City, N. J.

Haviland, C. Floyd, M. D., First Assistant Physician Kings Park State Hospital, Kings Park, N. Y.

Herring, A. P., M. D., Secretary State Lunacy Commission, 330 North Charles St., Baltimore, Md.

Henry, H. C., M. D., Assistant Physician Central State Hospital, Petersburg, Va.

Heyman, M. B., M. D., Assistant Superintendent Central Islip State Hospital, Central Islip, N. Y.

Hill, Charles G., M. D., Physician-in-Chief Mt. Hope Retreat, Baltimore, Md.

Hills, Frederick L., M. D., Superintendent Bangor State Hospital, Bangor, Me.

Hobbs, A. T., M. D., Medical Superintendent Homewood Sanitarium, Guelph, Ont., Canada.

Houston, John A., M. D., Superintendent Northampton State Hospital, Northampton, Mass.

Hurd, Arthur W., M. D., Superintendent Buffalo State Hospital, Buffalo, N. Y.

Hurd, Henry M., M. D., Secretary Trustees Johns Hopkins Hospital, 1210 Fidelity Building, Baltimore, Md.

Jones, L. M., M. D., Superintendent Georgia State Sanitarium, Milledgeville, Ga.

Kelly, Wm. E., M. D., Assistant Physician Middletown State Homeopathic Hospital, Middletown, N. Y.

Kineon, George G., M. D., Superintendent Ohio Hospital for Epileptics, Gallipolis, O.

King, George, M. D., County Physician, 239 Second St., Jersey City, N. J.

Kline, George M., M. D., Superintendent Danvers State Hospital, Hathorne, Mass.

Klopp, Henry I., M. D., Superintendent and Physician Homeopathic State Hospital, Allentown, Pa.

La Moure, Charles T., M. D., Superintendent Connecticut School for Imbeciles, Lakeville, Conn.

Lang, Walter E., M. D., Senior Assistant Physician Homeopathic State Hospital, Allentown, Pa.

Langdon, F. W., M. D., Medical Director Cincinnati Sanitarium, Box 4, College Hill, Cincinnati, O.

Lewis, J. M., M. D., Cleveland, O.

Long, T. L., M. D., Assistant Physician Cherokee State Hospital, Cherokee, Ia.

Mabon, William, M. D., Medical Superintendent Manhattan State Hospital, Wards Island, New York City.

MacDonald, Carlos F., M. D., Physician-in-Charge Dr. MacDonald's House, Central Valley, N. Y.

Mayer, Edward E., M. D., Keenan Building, Pittsburgh, Pa.

McKinniss, C. R., M. D., Medical Director and Superintendent Pittsburgh City Hospital, Boyce, Pa.

Meredith, H. B., M. D., Superintendent and Physician State Hospital for the Insane, Danville, Pa.

Mitchell, H. W., M. D., Superintendent State Hospital for the Insane, Warren, Pa.

Moore, J. W., M. D., First Assistant Physician Matteawan State Hospital, Beacon, N. Y.

Mullan, E. H., M. D., U. S. Public Health Service, Ellis Island, N. Y.

Murphy, Wm. A., M. D., Clinical Director Goldsboro State Hospital, Goldsboro, N. C.

Nevin, John, M. D., Jersey City, N. J.

Nevin, Ethan A., M. D., Superintendent State Custodial Asylum, Newark, N. Y.

Newcomb, Philip B., M. D., Clinical Director State Hospital, Osawatomie, Kans.

Nichols, John H., M. D., Superintendent and Resident Physician State Infirmary, Tewksbury, Mass.

O'Harrow, Marian, M. D., Assistant Physician Friends' Hospital, Frankford, Philadelphia, Pa.

O'Malley, Mary, M. D., Senior Assistant Physician Government Hospital for the Insane, Washington, D. C.

Orton, Samuel T., M. D., Clinical Director and Pathologist Pennsylvania Hospital for the Insane, Philadelphia, Pa.

Palmer, H. L., M. D., Superintendent Utica State Hospital, Utica, N. Y.

Payne, Guy, M. D., Medical Superintendent Essex Co. Hospital, Cedar Grove, N. J.

Peterson, Jessie M., M. D., Chief Resident Physician Department for Women, State Hospital for Insane, Norristown, Pa.

Price, Susan A., M. D., Assistant Physician Eastern State Hospital, Williamsburg, Va.

Purdum, H. D., M. D., Springfield State Hospital, Sykesville, Md.

Ricksher, Charles, M. D., Pathologist State Psychopathic Institute, Kankakee, Ill.

Ridgway, R. F. L., M. D., First Assistant Physician Pennsylvania State Lunatic Hospital, Harrisburg, Pa.

Ripley, Horace G., M. D., Assistant Superintendent Taunton State Hospital, Taunton, Mass.

Rosanoff, A. J., M. D., First Assistant Physician Kings Park State Hospital, Kings Park, N. Y.

Ross, Donald L., M. D., Superintendent Connecticut Colony for Epileptics, Mansfield Depot, Conn.

Russell, Wm. L., M. D., Medical Superintendent Bloomingdale Hospital, White Plains, N. Y.

Sargent, G. F., M. D., Assistant Physician Sheppard and Enoch Pratt Hospital, Towson, Md.

Scanland, J. M., M. D., Superintendent Montana State Hospital, Warm Springs, Mont.

Scheetz, Mildred E., M. D., Government Hospital for the Insane, Washington, D. C.

Scribner, Ernest V., M. D., Medical Superintendent Worcester State Hospital, Worcester, Mass.

Searcy, J. T., M. D., Superintendent Alabama Insane Hospitals, Tuscaloosa, Ala.

Shanahan, Wm. T., M. D., Superintendent Craig Colony, Sonyea, N. Y.

Shaw, Arthur L., M. D., Assistant Physician Craig Colony for Epileptics, Sonyea, N. Y.

Smith, Samuel Edwin, M. D., Medical Superintendent Eastern Indiana Hospital for the Insane, Richmond, Ind.

Smith, R. W. Bruce, M. D., Inspector of Hospitals, Toronto, Ont.

Southard, E. E., M. D., Director Psychopathic Hospital and Pathologist State Board of Insanity, 74 Fenwood Road, Boston, Mass.

Stearns, Albert Warren, M. D., Massachusetts State Board of Insanity, 520 Commonwealth Ave., Boston, Mass.

Stevenson, W. W., M. D., Assistant Physician New Jersey State Hospital, Trenton, N. J.

Stick, H. Louis, M. D., Superintendent and Treasurer Grafton State Hospital, Box 1178, Worcester, Mass.

Swift, Walter B., M. D., 110 Bay State Road, Boston, Mass.

Terflinger, F. W., M. D., Medical Superintendent Northern Hospital for the Insane, Logansport, Ind.

Thom, Douglas A., M. D., Pathologist Monson State Hospital, Palmer, Mass.

Thompson, Charles E., M. D., Superintendent Gardner State Colony, Gardner, Mass.

Thorne, Frederic H., M. D., Pathologist New Jersey State Hospital, Morris Plains, N. J.

Torney, George H., M. D., Associate Physician Bournewood Hospital, South St., Brookline, Mass.

Tuttle, George T., M. D., Medical Superintendent McLean Hospital, Waverley, Mass.

Tyson, Forrest C., M. D., Superintendent Augusta State Hospital, Augusta, Me.

Van Nuys, W. C., M. D., Superintendent Indiana Village for Epileptics, Newcastle, Ind.

Wade, J. Percy, M. D., Medical Superintendent Spring Grove State Hospital, Catonsville, Md.

Wagner, Charles G., M. D., Medical Superintendent Binghamton State Hospital, Binghamton, N. Y.

Walker, Lewis M., M. D., First Assistant Physician Medfield State Hospital, Harding, Mass.

Wardner, Drew, M. D., Assistant Physician Essex Co. Hospital, Cedar Grove, N. J.

Weeks, David F., M. D., Superintendent New Jersey State Village for Epileptics, Skillman, N. J.

Weston, Paul G., M. D., Pathologist State Hospital, Warren, Pa.

White, Wm. A., M. D., Superintendent Government Hospital for the Insane, Washington, D. C.

Wilsey, O. J., M. D., Physician-in-Charge Long Island Home, Amityville, L. I.

Wilson, Anita Alvera, M. D., Assistant Physician Government Hospital for the Insane, Washington, D. C.

Work, Hubert, M. D., Superintendent Woodcroft Hospital, Pueblo, Colo.

Yarbrough, Y. H., M. D., Assistant Physician Georgia State Sanitarium, Milledgeville, Ga.

Young, Ernest H., M. D., Assistant Superintendent Rockwood Hospital, Kingston, Ont., Canada.

The following visitors and guests of the Association registered their names with the Secretary:

Anderson, Mrs. Albert, Raleigh, N. C.

Atkinson, Gordon I., Member Board of Managers Spring Grove State Hospital, Catonsville, Md.

Ball, Nellie F., Clerk State Board of Insanity, Boston, Mass.

Barlow, Mrs. Chas. A., Spencer, W. Va.

Berry, Mrs. Roxie I., Superintendent of Nurses Virginia State Epileptic Colony, Madison Heights, Va.

Bohannan, J. Gordon, Member Board of Directors Virginia Hospitals, Petersburg, Va.

Bohannan, Mrs. J. Gordon, Petersburg, Va.

Brent, M. S., M. D., Assistant Physician Central State Hospital, Petersburg, Va.

Brush, Mrs. Edward N., Towson, Md.

Brown, Mrs. G. W., Williamsburg, Va.

Brown, Miss Louise, Madison Heights, Va.

Buchanan, Mrs. J. M., Meridian, Miss.

Burgess, Mrs. T. J. W., Montreal, Que., Canada.

Butler, Amos W., Secretary Indiana Board of State Charities, Indianapolis, Ind.

Carleton, B. L., M. D., Assistant Physician Central State Hospital, Petersburg, Va.

Cornell, Mrs. W. B., Baltimore, Md.

Crumbacker, Mrs. W. P., Independence, Ia.

Drewry, Mrs. W. F., Petersburg, Va.

Eckhardt, John Carl, M. D., Assistant Physician Central State Hospital, Petersburg, Va.

Epstein, M., Treasurer Board of Trustees Northern Hospital for the Insane, Logansport, Ind.

Evans, Albert, M. D., Trustee Medfield State Hospital, 409 Marlboro St., Boston, Mass.

Evans, Mrs. B. D., Greystone Park, N. J.

Forster, Mrs. J. M., Toronto, Ont., Canada.

Freeman, Douglas S., Richmond, Va.

Freeman, Mrs. Douglas S., Richmond, Va.

Frink, H. W., M. D., Chief of Neurological Clinic, Cornell Dispensary, 17 East 38th St., New York City.

Gamble, C. W., Mt. Morris, N. Y.

Gilliam, Robert, Chairman Board of Directors, Petersburg, Va.

Greene, Ralph N., M. D., Chief Physician Florida State Hospital, Chattahoochee, Fla.

Guthrie, Mrs. Margaret Lynn, Huntington, W. Va.

Haines, Emily L., Director of Industries State Board of Insanity, Boston, Mass.

Halterman, Charles W., M. D., Superintendent Weston State Hospital, Weston, W. Va.

Haviland, Mrs. C. Floyd, Kings Park, N. Y.

Houston, Harry R., Hampton, Va.

Hudgings, Mrs. Edward, Chase City, Va.

Johnson, J. E., American Laundry Machinery Co., Cincinnati, O.

Jones, Mrs. L. M., Milledgeville, Ga.

Kline, Mrs. Geo. M., Hathorne, Mass.

Klopp, Mrs. Henry I., Allentown, Pa.

La Moure, Mrs. Chas. T., Lakeville, Conn.

Lang, Mrs. Walter E., Allentown, Pa.

McCarthy, Rev. W. B., Resident Chaplain Craig Colony, Sonyea, N. Y.

McCarty, Chas. W., American Laundry Machinery Co., 132 W. 27th St., New York City.

McCullough, Mrs. F. F., Huntington, W. Va.

Miller, Mrs. George F., Huntington, W. Va.

Moody, Ray M., M. D., Assistant Physician Middletown State Hospital, Middletown, N. Y.

Moosbrugger, Herman F., President New Jersey State Village for Epileptics, Skillman, N. J.

Nevin, Mrs. John, Jersey City, N. J.

Old, Donathan W., M. D., Norfolk, Va.

Osborne, Mrs. C. A., Keysville, Va.

Parker, G. C., Norfolk, Va.

Pruden, A. A., Major and Chaplain U. S. Army, Fortress Monroe, Va.

Roe, Miss Margaret, Teacher Eastern State Hospital, Williamsburg, Va.

Rosanoff, Mrs. A. J., Kings Park, N. Y.

Shiftlett, Miss, Superintendent of Nurses Southwestern State Hospital, Marion, Va.

Smith, Mrs. R. W. Bruce, Toronto, Ont., Canada.

Smith, Mrs. Samuel E., Richmond, Ind.

Sommer, H. J., M. D., Medical Superintendent Blair Co. Hospital for the Insane, Hollidaysburg, Pa.

Stearns, Mrs. A. W., Boston, Mass.

Terflinger, Mrs. F. W., Logansport, Ind.

Thompson, Mrs. Chas. E., Gardner, Mass.

Tuttle, Mrs. George T., Waverley, Mass.

Walker, Mrs. Gerna Saville, Social Worker Medfield State Hospital, Harding, Mass.

Weeks, Mrs. David F., Skillman, N. J.

Williams, C. F., M. D., Superintendent State Hospital for the Insane, Columbia, S. C.

Williams, Frankwood E., M. D., Executive Secretary Massachusetts Society for Mental Hygiene, Boston, Mass.
Wilsey, Mrs. O. J., Amityville, L. I., N. Y.

THE PRESIDENT.—The meeting will please come to order. I wish to call your attention to the fact that ten of our members have passed away during the year, and in their memory I will ask you to kindly stand while their names are read by the Secretary, and then a brief prayer will be offered by Major Pruden, of Fortress Monroe, Va.

The Secretary read the following memorial notices by title:

Dr. R. J. Dysart, by Adin Sherman, M. D.; Dr. Brooks F. Beebe, by F. W. Langdon, M. D.; Dr. Wm. B. Moseley, by Elbert M. Somers, M. D.; Dr. Samuel F. Mellen, by Willis E. Merriman, M. D.; Dr. Oscar R. Long, by Henry M. Hurd, M. D.; Dr. Wesley Mills, by Charles K. Clarke, M. D.; Dr. D'Orsay Hecht, by Sanger Brown, M. D.; Dr. H. Walton Wood, by Henry A. Cotton, M. D.; Dr. Henry Smith Noble, by Charles E. Stanley, M. D.; Dr. Theodore W. Fisher, by Walter Channing, M. D.

Major Pruden then offered a brief prayer.

THE PRESIDENT.—I desire to announce that the exhibit of the Committee on Diversional Occupation is now ready for inspection, and may be found in the palm-room. In this connection also I wish to announce the appointment of the committee having in charge the awards of this exhibit, as follows:

Dr. Charles Ricksher, of Illinois; Dr. Edward M. Greene, of Georgia, and Dr. Frederick L. Hills, of Maine.

The constitution requires that the President shall deliver an inaugural address. I would ask Dr. Brush, the Vice-President, to take the Chair.

The President of the Association, Dr. Samuel E. Smith, read his address, "The Relation of Psychiatry to the State," which was greeted with applause.

DR. HENRY M. HURD.—We certainly are indebted to the President for this excellent address; it covers a wide field for thought; his suggestions are extensive, practical, and are such that I believe we should all act upon them. I move a vote of thanks.

Motion seconded.

DR. BRUSH (presiding).—It has been moved and seconded that a vote of thanks be extended to the President for his excellent address. I shall ask for a standing vote.

Motion unanimously carried.

DR. BRUSH.—I take great pleasure in extending to you, Mr. President, on behalf of this Association, its cordial thanks for your address. We realize that you come from a state toward which the center of literary activity is moving; we believe you come from a state concerning which one might say in paraphrasing certain familiar lines that it—

> "Counts that day lost whose low descending sun
> Sees no new novel writ, no fresh romance begun."

But we do not believe that you have presented to us this noon a romance; we believe that you have brought us the result of your years of work and observation and study, and that you have given us very much food for thought. I take very great pleasure, therefore, in extending to you the thanks of the Association.

THE PRESIDENT.—I thank you very much for your kind expressions.

Adjournment.

AFTERNOON SESSION.

THE PRESIDENT.—The meeting will please come to order. We will proceed with the reading of papers. I will ask Dr. H. G. Eyman, of Massillon, O., to read his paper.

Dr. Eyman read his paper entitled "Institutional Stasis." Discussed by Dr. Burgess.

DR. WM. A. WHITE.—I think that practically all of the members of the Association here are cognizant of the difficulty at the New Hampshire State Hospital some months ago, which resulted in the removal of Dr. Bancroft. At the time when that trouble was at its height the Governor of New Hampshire was bombarded with all sorts of letters protesting against his contemplated act. Dr. Bancroft informed me this morning that he had been reinstated by the present Governor. Such an act is absolutely in harmony with everything this Association has ever stood for, and I do not think we should limit ourselves to criticising acts that we do not approve of, but that we should be just as ready to commend actions that we do approve of, and with that end in view I am going to offer a motion that the following resolution be adopted by the Association:

Resolved, That this Association desires to express to His Excellency, Hon. Rolland H. Spaulding, Governor of New Hampshire, its appreciation of his action in reinstating Dr. Charles P. Bancroft as superintendent of the New Hampshire State Hospital at Concord, as a just recognition of his highly valuable services in the scientific care and treatment of the insane, and as an official recognition of the error that was committed when he was removed from the office which he had filled with conspicuous ability for many years.

DR. H. W. MITCHELL.—As a native of New Hampshire and a friend of Dr. Bancroft, I wish to second that motion.

THE PRESIDENT.—You have heard the motion of Dr. White—what is your wish?

Motion unanimously carried.

THE PRESIDENT.—I wish to state that it is advisable to add to the committee the Chair appointed this morning on awards, the names of two ladies. I am gradually losing faith in the judgment of the members of the committee, and I believe it would be of great assistance to them if I named these ladies: Mrs. T. J. W. Burgess, of Montreal, and Mrs. Richard F. Gundry, of Catonsville, Md.

I am informed that Dr. May is unable to be present, and requests that his paper entitled "Some of the More Recent Problems Connected with State Care of the Insane," be read by title.

As an addition to the program, we have a paper by Dr. Richard Dewey. I will ask Dr. Dewey to read his paper at this time.

The following papers were then read:

"The Evolution of Detached Wards (so-called 'cottages') for the Insane," by Richard Dewey, M. D., Wauwatosa, Wis.

"Recent Extension of Out-patient Work in the Massachusetts State Hospitals for the Insane and Feeble-Minded," by L. Vernon Briggs, M. D., and A. Warren Stearns, M. D., Boston, Mass., read by Dr. Stearns. Discussed by Drs. Houston, Burr and Dr. Stearns in closing.

"Some Practical Tasks in Mental Hygiene," by Thomas W. Salmon, M. D., New York, N. Y. (By title.)

"Recidivation in Insanity, With Considerations on Classifications," by George Villeneuve, M. D., Montreal, Que. (By title.)

THE PRESIDENT.—That brings our program up to the hour. If there is no further business we will adjourn and meet again promptly at 8.30 this evening.

Adjournment.

At 4 p. m., by courtesy of the Commanding Officer of Fortress Monroe, a visit was paid to the coast batteries and parade ground, where a regimental parade was witnessed. Cars were provided by the Committee of Arrangements to convey the members and their friends to and from the Fort.

Evening Session.

The President.—The Association will please come to order. The first thing on the program is a paper by Dr. Ferris, which we will hear at this time.

The following papers were read:

"State Ownership of the Springs of Saratoga and State Control in Developing and Utilizing their Facilities," by Albert Warren Ferris, M. D., Saratoga Springs, N. Y. (Illustrated by colored stereopticon slides.)

"A Further Study of Brain Anatomy in Manic Depressive Psychoses," by E. E. Southard, M. D., Boston, Mass. (Illustrated by lantern slides.)

"Anatomical Researches, Massachusetts School for Feeble-Minded," by Walter E. Fernald, M. D., Waverley, Mass., E. E. Southard, M. D., Boston, Mass., and A. E. Taft, M. D., Cambridge, Mass. Read by Dr. Southard. (Illustrated by lantern slides.)

The President.—The management of the hotel has asked permission to have Dr. Russell give a lecture before the Association on the subject of Hydrotherapy, which we will be pleased to hear now.

Dr. Russell presented a moving picture film showing the Nauheim and other baths in operation at the hotel.

The President.—The next in order will be a film showing scenes at the Binghamton State Hospital, with explanatory remarks by Dr. Wagner.

Dr. Charles G. Wagner, of Binghamton, N. Y., presented a motion picture film showing diversions, occupations, etc., in New York State hospitals for the insane, prepared under the direction of the State Hospital Commission of New York State, most of which were taken at the Binghamton State Hospital. A duplicate of this reel is being used daily at the Panama-Pacific Exposition in San Francisco at the present time.

On motion the meeting adjourned.

Wednesday, May 12, 1915, 10 A. M.

The President.—The first in order is the report of the Council.

REPORT OF THE COUNCIL FOR MAY 11, 1915.

The Council recommends the election of the following named physicians to the associate class: Inez A. Bentley, M. D., Kings Park, N. Y.; Harriet F. Coffin, M. D., Kings Park, N. Y.; Frederick C. Devendorf, M. D., Beacon, N. Y.; Pearl T. Haskell, M. D., Bangor, Me.; Thomas D. Macdonald, M. D., Central Valley, N. Y.; Susan A. Price, M. D., Williamsburg, Va.; Mildred E. Scheetz, M. D., Washington, D. C.; George A. Sharp, M. D., Beacon, N. Y.; Henry G. Smith, M. D., Cedar Grove, N. J.

The Council has received the following applications for active membership. In accordance with the constitution, final action will be deferred until next year: Ralph N. Greene, M. D., Chattahoochee, Fla.; Henry J. Sommer, M. D., Hollidaysburg, Pa.; W. K. Walker, M. D. Pittsburgh, Pa.

Respectfully submitted,

CHARLES G. WAGNER, *Secretary.*

On motion, duly seconded, the report of the Council was accepted and adopted.

THE PRESIDENT.—The next order of business is the election of new members and the transfer from associate to active membership, as recommended in the report of the Council yesterday. Do you wish to have the Secretary again read the names?

DR. BURR.—I move the reading be omitted.

Motion duly seconded and carried.

(This list is given in the first report of the Council.)

DR. EYMAN.—I move that the Secretary be authorized to cast the ballot as printed, electing these physicians to active and associate membership.

Motion duly seconded and carried.

THE PRESIDENT.—The Secretary has cast the ballot of the Association and these members are duly elected.

We will now hear the report of the Nominating Committee, Dr. Work, Chairman.

The Nominating Committee made the following report:

For President, Edward N. Brush, M. D., Towson, Md.

For Vice-President, Charles G. Wagner, M. D., Binghamton, N. Y.

For Secretary-Treasurer, H. C. Eyman, M. D., Massillon, O.

For Councilors for three years: S. E. Smith, M. D., Richmond, Ind.; Charles P. Bancroft, M. D., Concord, N. H.; Arthur P. Herring, M. D., Baltimore, Md.; J. M. Forster, M. D., Toronto, Ont.

For Auditor for three years, A. S. Priddy, M. D., Madison Heights, Va.
For Auditor (in place of Dr. H. C. Eyman), C. E. Laughlin, M. D., Evansville, Ind.

Respectfully submitted,

HUBERT WORK,
G. ALDER BLUMER,
CHARLES G. HILL,
Committee.

DR. WORK.—I move you that the gentlemen named be made the officers of this Association for the time for which they are named.

THE PRESIDENT.—The Association has heard the report of the Nominating Committee, having named officers for the ensuing year, and the motion of the Chairman that the report be approved. All in favor please signify by saying aye; opposed, no.

Carried.

On motion, duly seconded and carried, the Secretary was instructed to cast a ballot for the gentlemen named as the officers of the Association for the ensuing year.

THE PRESIDENT.—The next in order is the report of the Auditors.

The Auditors beg to report as follows: Accounts and vouchers of Treasurer examined. All vouchers properly receipted and all accounts correct and in good form; bank books examined and balances found to be in harmony with Treasurer's report.

Accounts of managing editor of AMERICAN JOURNAL OF INSANITY examined, and all vouchers found properly receipted, and accounts correct.

Respectfully submitted,

H. C. EYMAN,
M. B. HEYMAN,
Auditors.

May 12, 1915.

DR. WM. A. WHITE.—I move the report of the Auditors be received and approved.

Motion duly seconded and carried.

THE PRESIDENT.—As it is the duty of the Chair to appoint a Committee on Resolutions, I will appoint the following members: Dr. Arthur W. Hurd, Buffalo, N. Y.; Dr. R. W. Bruce Smith, Toronto, Ont.; Dr. W. P. Crumbacker, Independence, Ia.

The next order of business is the report of the Committee on Psychology in Medical Schools.

DR. WM. A. WHITE.—The chairman of the committee, Dr. Abbot, is not prepared to make a report this year; he probably will be next year.

THE PRESIDENT.—As the committee has no report to submit, that committee will be continued throughout the coming year.

We will now proceed to the reading of papers.

The following papers were read:

"Methods of Promoting the Nutrition in the Psychoses," by Sanger Brown, M. D., Kenilworth, Ill. Discussed by Drs. Hill, Hurd and Brown in closing.

"The Value of Routine Laboratory Work in Psychiatry," by Paul G. Weston, M. D., and Ira A. Darling, M. D., Warren, Pa.

THE PRESIDENT.—In view of the short time at our disposal this morning, I will, with the approval of the reader of this paper, postpone the discussion until we have heard the other papers on the program, and let these papers come in the same discussion.

The following papers were read:

"The Dementia Præcox Problem," by Henry A. Cotton, M. D., Trenton, N. J. Discussed by Drs. White, Work, Evans, Southard, Mitchell and Cotton.

"The Relation of Angular Gyrus Lesions to Catatonia," by E. E. Southard, M. D., and M. M. Canavan, M. D., Boston, Mass.

"The Treatment of Paresis," by Britton D. Evans, M. D., and Frederic H. Thorne, M. D., Morris Plains, N. J.

THE PRESIDENT.—With the consent of the members and in view of the lateness of the hour, we will omit discussion of Dr. Evans' paper until to-morrow, when we will hear a paper on a similar subject by Dr. Wardner. We will be obliged to adjourn now in order to make the boat at 2 o'clock.

On motion the meeting adjourned.

AFTERNOON SESSION.

At 2.30 p. m. the members of the Association and their friends enjoyed a ride on Hampton Roads on the boat *Endeavor*. Among the points of historic interest passed during the trip were the Rip Raps, the site of the naval battle between the *Monitor* and the *Merrimac*, the National Soldiers' Home, etc. By courtesy of Mr. Palen, Assistant General Manager of the Newport News Shipyard, a 30 minute stop was made to see that great plant, and the battleship *Vermont* was also visited by some of the party. A luncheon was served on board the boat and a chorus of colored singers sang Southern melodies. A most enjoyable afternoon was spent, the party returning at 7 p. m.

Evening Session.

The President.—We are assembled this evening to hear the annual address, and we are fortunate indeed that we have with us for the purpose of addressing us a distinguished and cultured gentleman of the Old Dominion, a journalist, publicist, a man who has taken an active and important interest in the public health of the state and community, who has had much to do with the advancing of ideas in the matter of the care of the unfortunates of this state, in that he has given special attention to this subject; he has also given special attention to many subjects, and I am sure that he will address us interestingly and instructively this evening. It affords me very great pleasure to introduce to you Dr. Douglas Southall Freeman, of Richmond, Virginia.

Dr. Freeman then delivered his address "Publicity and the Public Mind," which was greeted with applause.

Dr. Blumer.—*Mr. President, Ladies and Gentlemen:* There are times when even an inferior psychologist may interpret the psychology of a crowd without the aid of a newspaper and without knowing anything about them, and this is one of those times. Now, notwithstanding the restraint imposed by courtesy and conventions, we have all of us, I think, experienced a pressure to speech as this gentleman has been talking, and the words coming to our lips have been, on the part of the men, "Gee whiz!" and on the part of the ladies, "Isn't he perfectly lovely?" I have heard a great many addresses before this society, and I do not remember any that I have listened to with greater pleasure than the address I have just listened to by Dr. Freeman. It has been entertaining in style and altogether a delightful occasion. I therefore rise, Mr. President, as the spokesman of this audience, to offer to Dr. Freeman a very hearty vote of thanks for the great treat that he has given us.

The President.—As a further expression of appreciation for this excellent address, I will ask the members of the Association and guests to rise.

Motion unanimously carried.

The President.—This session will now adjourn, and if you will kindly gather in the drawing-room we will there have the pleasure of meeting Dr. and Mrs. Freeman personally.

Adjournment.

Following adjournment the members and guests of the Association assembled in the drawing-room where a reception was held, after which the management of the hotel furnished music for dancing in the ball-room, and refreshments were served.

Thursday, May 13, 1915, 10 A. M.

The President.—The Association will please come to order. The first in order will be the report of the Council by the Secretary.

Report of the Council for May 12, 1915.

The Council recommends that the following named physicians be elected to associate membership: Ray M. Babbitt, M. D., Huntington, W. Va., and W. W. Stevenson, M. D., Trenton, N. J.

The Council has received the application for active membership of Sara E. Stevens, M. D., West Roxbury, Mass. According to the constitution, final action will be deferred until next year.

The Council recommends that the annual meeting of this Association for 1916 be held in New Orleans, La., and that the time of the meeting be left discretionary with the President and the Committee of Arrangements, to be announced later.

Respectfully submitted,

Charles G. Wagner, *Secretary.*

Dr. C. B. Burr.—I move the report of the Council be approved.

Motion duly seconded and carried.

The President.—The next order of business is the election of members proposed yesterday. The Secretary will read the names.

(This list is given in the report of the Council for Tuesday.)

Dr. C. B. Burr.—I move the Secretary be instructed to cast the ballot of the Association for the election of the physicians named to associate membership.

Motion duly seconded and carried.

The President.—The Secretary has cast the ballot as instructed, and these physicians are duly elected members of the Association.

We are now ready to resume the reading of papers. We will first hear a paper left over from yesterday, by Dr. Drew M. Wardner.

Dr. Wardner read a paper entitled "The Intra-Cranial Injection of Salvarsanized Serum."

The President.—You have before you now two papers for discussion: the one just read by Dr. Wardner, and the paper read yesterday by Dr. Evans.

These papers were discussed by Drs. Burr, Swift, Thorne, Paine and Wardner.

THE PRESIDENT.—I may say that the paper submitted by Dr. Wardner last year, upon this subject, was followed up for this year at my request following a brief visit which I had made to the institution at Cedar Grove. We are certainly very glad to have this report continued, and it will be interesting to have further report of these particular cases at another time.

The next in order will be the report of the Committee on Diversional Occupation of the Insane, by Dr. A. P. Herring, Chairman.

REPORT OF THE COMMITTEE ON DIVERSIONAL OCCUPATION OF THE INSANE TO THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION, MAY, 1915.

Mr. President and Gentlemen: Your Committee on the Diversional Occupation of the Insane begs leave to submit a brief report of its activities, and would call special attention to the very interesting exhibit which is presented for your study.

The exhibit this year, which is the fourth one, is a very marked advance over the exhibit held at Atlantic City in 1912, with about six institutions participating. In 1913 there were 12, and in 1914 there were 14 institutions represented, while the present exhibit is represented by 34 hospitals, presenting a more practical and varied array of industries than ever before. Surely we should feel encouraged with the growing interest the members are manifesting in the work of this committee.

In the report of the committee for 1913, a map of the United States was presented, showing the number of state, private and corporate hospitals where diversional occupation was practiced. There were 68 hospitals, representing 25 states, where silver stars were given, indicating that some special effort was being made along the lines of diversional occupation. The map which we present to you this year shows only the state hospitals (county asylums, private and incorporated hospitals have been omitted). There are 80 silver stars in 27 states. This map also shows the approximate location of every state institution for the insane, criminal insane, feeble-minded, epileptic, inebriates, and the psychopathic institutes in the United States. We hope this map will prove of some interest to you, as it presents in a very striking manner the provision made by the various states in caring for their mental defectives.

The committee has created arbitrary standards regarding diversional occupation, in order to classify the hospitals into three groups. The first group, represented by a gold star, indicates that the hospital has reached a very high point in the development of occupational therapy. The requirements are:

1st. A director and teachers of diversional occupation.

2d. A nurses' course in occupation.

3d. That at least 50 per cent of the "unwilling workers" are occupied.

4th. Separate departments for diversional occupation, as well as on the wards.

5th. That diversional occupation is prescribed after a careful study of the patient's condition and a record kept of the results attained.

6th. That diversional occupation is more or less self-supporting.

The second group, represented by a silver star, indicates that the hospital has a teacher of diversional occupation; that at least 25 per cent of the "unwilling workers" are occupied, and that there is a special room or department for this work.

The third group, represented by a red star, indicates that no special effort is being made to occupy the "unwilling workers," and that diversional occupation as outlined above is not practiced.

This classification has been made as the result of answers received to the questionnaire sent out in 1913 and again in 1914. When the hospital did not answer either communication and no information could be obtained concerning the methods employed, the hospital was put in the red star class.

If the committee has been in error in regard to any hospital, it is earnestly hoped that the error will be corrected. This classification of state hospitals has been done solely with the idea of stimulating interest in the subject of diversional occupation, and with the hope that a pleasant and friendly competition will be aroused, so that every superintendent will want to see his institution indicated by a gold star.

The first institutions to be given a gold star are the Massillon State Hospital, Ohio, and the following Massachusetts hospitals: Worcester State Hospital, Boston State Hospital, Grafton State Hospital, Gardner State Colony, and Taunton State Hospital. We hope that a number of other institutions will be added to this list during the coming year.

Your committee has also prepared a symposium on diversional occupation, which we hope will be of interest and elicit a lively discussion.

We desire to thank the Program Committee for their cooperation in arranging this symposium, and especially to express our appreciation to those who have gone to so much trouble and expense in preparing an exhibit for this meeting. We hope that the efforts of the committee in presenting the unlimited possibilities of diversional occupation as a therapeutic agent in treating the insane will be the means of stimulating those who have not as yet introduced this method as a part of their hospital activities, and that it will encourage those who are familiar with its many advantages to renewed efforts and especially to study the psychology of work and play in mental diseases.

We submit the efforts of the committee for your consideration and trust that the work may not stop here, but will be continued under another committee, that will develop it along more advanced lines.

The following hospitals have taken part in the exhibit:

Manhattan State Hospital, Central Islip State Hospital, Hudson River State Hospital, Gowanda State Hospital, Middletown State Hospital, Kings Park State Hospital, *New York;* Central State Hospital, Eastern State Hospital, Southwestern State Hospital, Western State Hospital, State Colony for Epileptics, *Virginia;* Norristown State Hospital, Pennsylvania Hospital, State Homeopathic Hospital (Allentown), Danville State Hospital, Blair County Hospital, *Pennsylvania;* Stockton State Hospital, *Cali-*

fornia; Springfield State Hospital, Spring Grove State Hospital, Sheppard and Enoch Pratt Hospital, *Maryland.* Crownsville State Hospital's exhibit arrived too late to display.

The following Massachusetts hospitals exhibited under the auspices of the *State Board of Insanity of Massachusetts:* Worcester State Hospital, Taunton State Hospital, Northampton State Hospital, Danvers State Hospital, Westborough State Hospital, Boston State Hospital, Grafton State Hospital, Medfield State Hospital, Gardner State Colony, Monson State Hospital, Massachusetts School for Feeble-minded, Wrentham State School, McLean Hospital.

The President appointed the following committee to constitute a jury of award: Dr. Charles Ricksher, Kankakee, Ill.; Dr. F. L. Hills, Bangor, Me.; Dr. E. M. Green, Milledgeville, Ga.; Mrs. Richard F. Gundry, Catonsville, Md., and Mrs. T. J. W. Burgess, Montreal, Que. This committee awarded certificates to the following institutions:

California.—Stockton State Hospital: Fish cord table runner, linen sofa pillow.

Maryland.—Springfield State Hospital: Paper work, raffia work, raffia jardiniere. Spring Grove State Hospital: Wax flowers, cotton crocheted slippers, children's clothing, crocheted quilt, embroidery. Sheppard and Enoch Pratt Hospital: Copper ornaments, wooden toys, wood work, reed jardiniere.

Massachusetts.—Danvers State Hospital: Hammered copper, leather work. Gardner State Colony: Reed work, basket work. Worcester State Hospital: Pottery work. Grafton State Hospital: String work. Westborough State Hospital: Shirt-waist box. Boston State Hospital: Senna mat. Northampton State Hospital: Tools and tinware. Taunton State Hospital: Oil painting, hammered brass work, fiber rug. McLean Hospital: Glazed pottery, woven bed spread, loom work.

New York.—Kings Park State Hospital: Braided rag rugs, stenciling, drawing. Hudson River State Hospital: Raffia, flowers. Middletown State Hospital: Embroidery. Central Islip State Hospital: Paper work. Manhattan State Hospital: Pastel, raffia. Gowanda State Homeopathic Hospital: Melon seed work.

Pennsylvania.—State Homeopathic Hospital, Allentown: Hooked rugs, patch-work quilt, Indian rugs. Norristown State Hospital: Dressed dolls, bobin lace, colored centerpiece, fireside basket, toys. Danville State Hospital: Hand-carved celluloid, carved paper weights, braid work, tatting, water color. Blair County Hospital: Cement work, plaster work.

Virginia.—Central State Hospital: Knitted scarf, crocheting, worsted work. Western State Hospital: Best art needlework, Irish crochet. Eastern State Hospital: Doll furniture, mats, wood carving, printed screen, silk embroidery on crepe. Virginia State Colony for Epileptics: Woven

hammock, paper work. Southwestern State Hospital: Knitted bed spread, raffia table mat.

The committee desires to thank the judges for their painstaking study of the exhibit.

Respectfully submitted,

G. W. BROWN,
C. F. HAVILAND,
J. S. DEJARNETTE,
W. R. DUNTON, JR.,
A. P. HERRING, *Chairman,*
Committee.

THE PRESIDENT.—You have heard the report of the Committee on Diversional Occupation—what is your pleasure in regard to it?

DR. BRUSH.—I move that the report be accepted, and the thanks of the Association extended to the committee for their very successful work.

Motion duly seconded and carried.

THE PRESIDENT.—The program calls for a symposium on "Diversional Occupation"; the first paper is by Dr. Frost, of Boston.

Dr. Henry P. Frost, of Boston, Mass., read a paper entitled "Occupation for the Insane."

THE PRESIDENT.—Discussion of Dr. Frost's paper will be postponed until afternoon.

The next paper is by Frank M. Mikels, M. D., of Morris Plains, N. J., entitled "The Therapeutic and Economic Value of Diversional Occupation," which will be read by title.

The meeting will now adjourn for the purpose of visiting the Hampton Institute. We will take up the remainder of the morning program this afternoon.

At 11.30 a. m. special cars provided by the Committee of Arrangements conveyed the members of the Association and their guests to the Normal and Agricultural Institute at Hampton, where they were given an entertainment by the officers of the Institute, in which the performers were young colored people from the student body; the return trip was made at 1.30 p. m., arriving at the hotel about 2 o'clock.

AFTERNOON SESSION.

THE PRESIDENT.—The Association will please come to order. The Secretary will read the report of the Council.

REPORT OF THE COUNCIL FOR MAY 13, 1915.

The Council recommends the transfer from associate to active class of Dr. Y. H. Yarbrough, Milledgeville, Ga.

The Council recommends the election of the following named physicians to the associate class: G. G. Hankins, M. D., Williamsburg, Va.; C. B. Reitz, M. D., Allentown, Pa.; Emanuel S. Brodsky, M. D., Westport, Conn., and F. B. E. Miller, M. D., Cherokee, Ia.

The Council also makes the following recommendations: That the matter of printing, publishing and soliciting subscriptions to the History of the Association, now in preparation, be referred to Dr. Henry M. Hurd and his associates on the committee, with power.

That the incoming President be authorized to appoint a Program Committee and also a Committee of Arrangements for the next annual meeting.

That the dues for the ensuing year be fixed at the usual rates, viz.: Five dollars for active members, and two dollars for associate members.

Respectfully submitted,

CHARLES G. WAGNER, *Secretary.*

THE PRESIDENT.—You have heard the report of the Council—what are your wishes?

DR. WM. A. WHITE.—I move the report of the Council be received and adopted.

Motion duly seconded and carried.

THE PRESIDENT.—I will call for the report of the Committee on Immigration, Dr. Brush, Chairman.

Mr. President and Members of the Association: The Immigration Bill (No. 6060) came to a vote in Congress in January, 1915, and received a very large majority in each House. The bill, as it finally passed the House, contained all the amendments recommended by this Association, and we believe that its enactment would have provided an adequate defense against the admission of insane or mentally defective immigrants, at the same time providing much more effectively for the return of the alien insane from our public institutions. The principal provisions of the bill were:

1. Providing that the medical officers of the United States Public Health Service who have had special training in the diagnosis of insanity and mental deficiency shall be detailed for duty at ports of entry designated by the Secretary of Labor, and that the services of interpreters and suitable facilities for making mental examinations and observing cases shall be provided for these medical officers.

2. Providing that the surgeon of each vessel shall make a mental examination of each immigrant before accepting him for passage. (A physical examination only is required at present.)

3. Providing a fine of $200 for bringing to this country any insane or mentally defective person whose condition could have been detected by a competent medical examination at the time of embarkation.

4. Adding constitutional psychopathic inferiority and chronic alcoholism to the excludable causes.

5. Making it mandatory for the Secretary of Labor to provide suitable attendants for immigrants being deported, when they require personal care on account of mental or physical disability.

6. Increasing from three to five years the period in which deportation of aliens who have become a public charge in this country can be effected—unless it can be affirmatively shown that their dependence is due to causes arising subsequent to landing.

7. Providing that deportation can be effected subsequently if proceedings are *instituted* within five years.

President Wilson gave a public hearing before passing upon the bill, at which two or three members of this committee and the chairman represented the American Medico-Psychological Association. A number of other national organizations especially interested in mental diseases and mental deficiency united with the representatives of this Association in selecting Dr. Stewart Paton as spokesman. Dr. Paton presented the views of those whom he represented very convincingly, and no subsequent speaker undertook to take issue with him.

The bill was vetoed by President Wilson, his veto message dealing wholly with the clause providing for a literacy test and that which denied admission to persons fleeing from punishment for certain political offenses. He took occasion later to warmly praise the amendments in which we are especially interested.

An attempt was made in Congress to pass the bill over the President's veto, but without success.

A similar bill will be introduced as soon as Congress assembles in December, and it will be necessary for all those interested to insist again that the amendments to which we are committed are included. Therefore, it is very desirable that a Committee upon Immigration be continued and be authorized to continue efforts to secure the legislation which this Association advocates.

THE PRESIDENT.—You have heard the report of the Committee on Immigration—what is your pleasure?

DR. WM. A. WHITE.—I move that the report be received and approved, and the committee continued.

DR. BRUSH.—Mr. President, in regard to Dr. White's last words, "and *the* committee continued," I do not quite like to be the "Pooh Bah" of this Association; I am the President-elect, the editor of the JOURNAL OF INSANITY, and I think I might be excused from the chairmanship of this committee.

THE PRESIDENT.—You have heard the motion of Dr. White. All in favor, please say aye; opposed, no. The ayes have it, and the motion is carried.

DR. WAGNER.—Mrs. Drewry desires me to announce on behalf of the ladies, that a card party has been arranged for this evening for the ladies; the place and time will be announced later.

THE PRESIDENT.—I see that Dr. Stearns is in the room, and as he is on the program for a paper this afternoon, I will ask him to read his paper now, before concluding the symposium on "Diversional Occupation."

Dr. A. Warren Stearns, of Boston, Mass., then read a paper entitled "A Survey of 'Defective Delinquents' Under the Care of the Massachusetts State Board of Insanity." Discussed by Drs. Houston, Bernstein, Hurd and Stearns in closing.

THE PRESIDENT.—We will now return to the symposium on "Diversional Occupation" opened this morning. The first speaker will be Dr. C. Floyd Haviland, of Kings Park, N. Y.

The following topics were presented:

"What Are the Advantages of an Occupation Schedule?" by C. Floyd Haviland, M. D., Kings Park, N. Y.

"Should Patients be Rewarded for Industrial Occupation?" by Charles E. Thompson, M. D., Gardner, Mass.

"Is an Occupation Teacher Desirable?" by Henry I. Klopp, M. D., Allentown, Pa.

"Should Occupation be Limited to Work-rooms, or Distributed About the Wards?" by Horace G. Ripley, M. D., Taunton, Mass.

"Should There be a Definite Recreation Schedule?" by Wm. Rush Dunton, M. D., Towson, Md.

These topics were discussed by Drs. McKinniss, Dewey, Bancroft, Sommer, Tuttle, Herring and Dunton.

THE PRESIDENT.—The next paper on the program is by Dr. Henry J. Berkley.

DR. BRUSH.—Dr. Berkley is unable to be present. He asked me to express his regret, and desired that his paper, which he has placed in my hands, be read by title.

"The Psychoses of the High-Imbecile," by Henry J. Berkley, M. D., Baltimore, Md., was read by title.

THE PRESIDENT.—Dr. L. Pierce Clark is also absent, and his paper, "Outlines of a State Policy for Dealing with Mental Deficiency," will be read by title also.

We have no program for this evening, but we will assemble promptly at 10 o'clock to-morrow morning for the closing session. If there is nothing further to come up this afternoon we will consider ourselves adjourned until to-morrow morning.

Friday, May 14, 1915, 10 A. M.

The President.—The Association will please come to order. The first order of business will be the election of members as proposed by the Council yesterday.

Dr. Henry M. Hurd.—I move the Secretary be instructed to cast the ballot of the Association for the transfer from associate to active membership and election of new members as recommended by the Council.

Motion duly seconded and carried.

(This list is given in the reports of the Council for Wednesday and Thursday.)

The President.—Is there a report from the Committee on Statistics? Dr. Salmon is unavoidably detained, and if there is no report the committee will be continued.

I am informed that Dr. Williams, of Washington, is unable to be present, therefore his paper entitled, "The Results of Psychoanalysis of a Case of Involution Melancholia," is read by title.

Is Dr. Alfred Gordon, of Philadelphia, present? If not, his paper on "Psychoses, Psychoneuroses and Mental Deficiency in 6000 Cases Considered Especially from the Standpoints of Sex and Etiological Incidents," will also be read by title.

We will now listen to Dr. Rosanoff's paper.

The following papers were read:

"Some Neglected Phases of Immigration in Relation to Insanity," by A. J. Rosanoff, M. D., Kings Park, N. Y. Discussed by Drs. Hill, Swift, Mullan and Rosanoff in closing.

"Observations on the Voice in Tabes—A Voice Sign," by Walter B. Swift, M. D., Boston, Mass.

The President.—This concludes our program.

Dr. Brush.—We have had three or four papers which have been read by title, and I understand that two or three of these gentlemen have made no excuse for their non-attendance. It seems to me it is not quite the thing for members to send on titles to papers and get a place on the program without taking any pains to present their papers or to send their papers for some one else to read, or to make any excuse for their non-appearance at the meeting. It seems to me that papers of that type should be excluded from the Transactions, and that in future notice to that effect be sent to those who desire a place on the program, and then if they do not appear or send an excuse for their non-appearance, after having asked for a place on the program, that their papers do not appear in the Transactions. I am willing to offer a resolution to that effect.

Dr. Burgess.—I strongly support Dr. Brush's motion.

DR. C. B. BURR.—I would move that the precedent heretofore established be followed in the present instance, but that the whole question be referred to the Council for recommendation and report at the next meeting.

DR. BRUSH.—I withdraw my motion and accept the amendment.

THE PRESIDENT.—The first motion has been withdrawn, and Dr. Burr's motion substituted. Those in favor of referring the whole matter to the Council please say aye; opposed, no.

Motion is carried and it is so ordered.

THE PRESIDENT.—It is in order now to receive the report of the Committee on Resolutions.

DR. R. W. BRUCE SMITH.—At the request of Dr. Arthur W. Hurd, chairman of the committee, who was obliged to leave this morning, I beg to present the report of the committee.

The Committee on Resolutions offers the following:

WHEREAS, The Committee of Arrangements of this meeting of the Association has made so efficient, admirable and painstaking efforts for its welfare; such good provision for the scientific sessions, and such a hospitable and interesting program for the entertainment of the members, their families and guests, as to make this meeting at this beautiful place a memorable and delightful one;

Resolved, That the thanks of this Association be most sincerely tendered to Dr. Drewry and his committee associates, to the General Board of Hospital Directors of Virginia, to the Hon. Douglas Southall Freeman, to the Hampton Institute, to the Army and Navy, and to the citizens of this community; to Mrs. Burgess, of Montreal, and Mrs. Richard F. Gundry, of Catonsville, Md., for kindly assistance in judging the exhibits illustrating diversified occupations; to the management of the Hotel Chamberlin for their kind efforts in our behalf, sustaining in full measure the old reputation for hospitality of the State of Virginia.

ARTHUR W. HURD,
R. W. BRUCE SMITH,
W. P. CRUMBACKER,
Committee on Resolutions.

THE PRESIDENT.—You have heard the resolutions—what will you do with them?

DR. C. B. BURR.—I move their adoption by a rising vote.

Motion duly seconded and unanimously carried by a rising vote.

THE PRESIDENT.—I desire to inquire whether the Committee on Awards has any report to make to the Association? I presume no formal report is necessary, so we will pass on.

I know of no further business to come before the Association other than the induction of the President-elect into office.

Before presenting the President-elect, I take this occasion to say a word of farewell.

Members of the Association: Our work for this session has been completed and the hour of parting is now here. I regret that words fail me to express my gratitude to you for the honor you have bestowed upon me in permitting me to preside over your deliberations during this meeting. I repeat, I esteem it the highest honor which ever came to me, and I can aspire to no greater distinction. I thank you from the bottom of my heart. I am grateful, too, for your patience and assistance and consideration in my efforts, feeble at best—none knows better than I, to discharge the duties of this honorable position. Please forget my blunders.

For the success of this meeting credit is largely due to the efficient Secretary, Dr. Wagner, and the splendid Committee of Arrangements. To Dr. Wagner I am personally indebted beyond all expression. It has afforded me joyous satisfaction to see you honor him by election to the office of Vice-President. His work will always do credit to this Association and to himself.

The Committee of Arrangements contributed so much to the meeting that I would appear ungrateful if I did not give it special mention. To Dr. Drewry and his associates, I take off my hat, and to Mrs. Drewry, Mrs. Brown, Mrs. Bohannan, Mrs. Osborne, Mrs. West and others, I make my bow.

I now vacate the chair to make room for one who is so well known to you and all workers in the common cause that any introduction by me is both superfluous and incongruous. It is a coincidence that he and I became members of the Association at the same time, 24 years ago. He has borne his share in all the activities of the Association, as one of the editors of the JOURNAL OF INSANITY and member of most of the committees having any hard work to do, and member on the floor. He has done all his work well, and the Association honors itself in honoring him. It is a pleasure to vacate this honorable position to a good friend so faithful and able, and so fittingly deserving of your preference.

Dr. Brush, I welcome you as the President of the American Medico-Psychological Association for the coming year, and now transfer to your hands the gavel of authority which carries with it a high honor and proof of the esteem in which you are held by this Association. You will, I am assured, preserve the dignity of the office and add grace and efficiency to the manner of discharging its duties. I welcome you and congratulate you as friend, coworker, gentleman and scholar, deserving of this distinguished honor, and I bespeak for you a splendid administration.

Members of the Association, your President, Dr. Edward N. Brush, of Maryland. [Applause.]

DR. BRUSH.—*Dr. Smith, and Members of the Association:* I very much regret that I have not any formal speech prepared; that I have not even sent to the Secretary an abstract that will appear on the program. I accept this emblem of office, promising you that if, perhaps, in the past I have occasionally been a little too much of a "knocker," I shall not use it for that purpose in the future.

No one, I think, can stand where I stand to-day without appreciating that he has had conferred upon him one of the highest honors which can come to the professional man in this country; to be the President of the oldest national and, in fact, international, medical association on the Western Continent is no small honor; to be President of a body engaged in the work we are engaged in and composed of such members as we fortunately have in our Association, is a very great honor, and I thank you most heartily that you have conferred it upon me.

I cannot on this occasion let the opportunity pass to call your attention to the extreme modesty of my predecessor. We all agree with him in giving very great credit, as we have done on numerous occasions, to the efficient Secretary, for the success of our meeting; but I know of no occasion on which it could have been more fittingly said of any man who has taken his place in the presidential chair that the success of the meeting was due in such large measure to the manner in which the sessions have been conducted by the retiring President, and I think we all unite in regretting the fact that we are losing Dr. Smith as the President of the Association. I am glad to say, however, that a precedent has been established this year by which the retiring President remains a member of the Council for three years, to add his advice as the result of accumulated experience to the proceedings of that body, and we shall all depend very largely upon you, Dr. Smith, for your advice.

DR. BURR.—I want to propose a vote of thanks to the retiring officers: The President, the Secretary, and I should like to include also the Program Committee; we certainly owe a great deal to the officers for the excellence of this program, and the augmentation of the membership of the Association. I would like to propose a hearty resolution of thanks to the retiring officers, and would ask that this be given by a rising vote.

DR. SMITH.—I would like to add another name to the list referred to by Dr. Burr, viz., that of Miss Margaret M. Bloxham, the efficient stenographer, who has, with painstaking care and accuracy, reported the proceedings of this Association for several years past, and to express my appreciation of the great service she has rendered.

DR. BRUSH.—I second that motion, and wish to say that, as editor of the JOURNAL, I perhaps appreciate better than anybody else the extent of the service Miss Bloxham has rendered in promptly and accurately transcribing the proceedings for publication in the JOURNAL.

DR. BURR.—I accept the amendment, and only regret that I failed to mention the name of Miss Bloxham in the original motion.

Motion carried by a rising vote.

DR. BRUSH.—Is there any further business to bring before the Association? If not, a motion to adjourn is in order.

DR. BURR.—I move that we adjourn.

DR. BRUSH.—It has been moved that we adjourn. I therefore declare this Seventy-first Annual Meeting of the Association adjourned to meet in New Orleans, La., next year, at a time to be named by the President.

CHARLES G. WAGNER, *Secretary.*

Notes and Comment.

Sir Thomas S. Clouston.—Sir Thomas Smith Clouston, M. D., LL. D., a psychiatrist of world-wide fame and for many years an honorary member of the American Medico-Psychological Association, died in Edinburgh on April 19, 1915, within three days of his seventy-fifth birthday. Death occurred suddenly from cerebral hemorrhage.

Dr. Clouston took his degree in medicine at the University of Edinburgh in 1861, receiving a gold medal for his thesis. After service as assistant physician at the Edinburgh Royal Asylum, Morningside, under Dr. Skae, begun immediately after graduation, Dr. Clouston was appointed, in 1863, medical superintendent of the Cumberland and Westmoreland Asylum at Carlisle, to use his own words, "as a sort of boy physician at the age of 23." In 1873 he succeeded his former chief at Morningside. In 1879 he became lecturer on mental diseases to the University of Edinburgh. For many years he was one of the editors of the *Journal of Mental Science*. In 1883 he published his clinical lectures on mental diseases, a book which passed through several editions and served greatly to extend the name and fame of its author throughout the world. Later books were "The Neuroses of Development," "The Hygiene of the Mind," "Unsoundness of Mind," and "When I Wed." Perhaps the deceased alienist will be best known to posterity for his contributions to the study of adolescent insanity, a field in which he anticipated as a pioneer, by his masterful clinical exposition, the later, more elaborate work of the German school of Kraepelin. Mention may also be made of Dr. Clouston's brilliant annual reports, which were practically messages in mental hygiene addressed to the people, by means of which, moreover, much of the reproach attaching in an earlier day to mental diseases was in large measure happily removed.

In 1911, on the occasion of a visit of the King and Queen to Edinburgh, Dr. Clouston had the honor of knighthood conferred

upon him. After his retirement from the superintendency of Edinburgh Royal Asylum a few years ago, Sir Thomas devoted himself to consultation practice, for he was temperamentally unfitted for a life of leisure. He was keen, energetic, optimistic, and of indomitable spirit to the end. No British psychiatrist enjoyed a larger share of the esteem and affection of his fellows. He was genial in manner though rugged in speech; in his writings he was an adept in terse and vigorous English, and on the floor a lucid and valiant debater. Intellectually and morally he was a tower of strength, and he was distinctly a man of "character." His most enduring monument is the Edinburgh Royal Asylum at Morningside, where he wrought many years with conspicuous ability and trained a multitude of young men in the science and art of psychiatry.

We do not presume at this time to estimate Sir Thomas Clouston's rank in the world of psychiatry. That is a judgment that must be made later, but there can be no doubt that by a great many competent and discerning critics of his own race and speech the deceased was regarded as without a rival among British clinical alienists.

Sir Thomas Clouston married Harriet Segur Storer, daughter of William Storer, of New Haven, Conn. He is survived by Lady Clouston, two sons, one of whom, J. Storer Clouston, is a writer of fiction, and by one daughter, the wife of Mr. David Wallace, C. M. G., a well-known surgeon.

FEEBLE-MINDED CITIZENS OF PENNSYLVANIA.—In the JOURNAL for April we had occasion to refer to the survey of the institutions for the insane in Pennsylvania made under the auspices of the Public Charities Association of that state. We have since then received a report of a survey of a "certain locality comprising about 700 square miles and having a population estimated at 16,000" in Pennsylvania, in reference to the occurrence of feeble-mindedness. This survey occupied four months from August 7 to December 6, 1914, and was made by S. Wilhelmine E. Key for the Public Charities Association, and was made possible by the generosity of Mrs. Edward T. Stotesbury of Philadelphia.

The purpose of the study was to determine the number of mentally defective persons in this community, and their cost to the

people of Pennsylvania, as well as to discover possible remedies for a condition that experts agree becomes rapidly worse wherever left unchecked.

Dr. Key found in this district 508 persons, ranging in age from six years upward, who were feeble-minded—that is, who were either clearly mentally defective, or who, being members of the family of such a defective, have been so affected by their associations and environment as to be indistinguishable from mental defectives in their conduct and social and family relations.

In other words, more than three defectives not in institutions were found for every 100 of the population of this Pennsylvania community. This enumeration did not include a considerable number of shiftless, indolent, inefficient persons, who had no clear mental or physical defect, but who, in a stricter classification, might be classed with the defectives, so far as their effect upon the community is concerned. Nor did it include children under six, unless they were obviously and unmistakably defective.

A careful house-to-house study, oft-repeated, verified and amplified by examination of official records and family histories and by consultation with well-informed neighbors and social workers, developed several striking conclusions:

(1) Certain centers of mental and moral degeneracy and defect were found, which corresponded closely with the distribution of certain well-known mentally tainted family stocks. In two little settlements, for instance, on the edge of the area studied, it was found that 57.7 per cent and 26.6 per cent of the population were mentally defective, in the sense above indicated. Examination revealed the fact that these settlements were the original seats of two families that were notably defective. By inbreeding and inter-breeding, the original small groups, after several generations had brought forth hundreds of their own kind, and other hundreds who were on the borderline of inefficiency and mental defectiveness.

Not only by drawing together representatives of their own and other bad strains, but by attracting weak members of better and normal families, these settlements became centers of constantly widening and contaminating influence, the more aggressive members going out to found other centers of contamination.

(2) From figures supplied by the officers of the county most directly concerned, Dr. Key shows that the actual financial cost to the county, for caring for and protecting against these defective groups during the last 25 years, has been at least $265,000, of which $125,000 was actually spent for maintenance of representatives of these families in the county home for varying periods; $30,000 for care of orphans; $75,000 for settlement of criminal cases outside of court; $15,000 for settlement of criminal cases in court, and $20,000 for outdoor or home relief. This takes no account of the cost of their private depredations, nor of private charity, nor free medical attendance, nor necessary extra police service, nor drink bill, etc.

In this connection Dr. Key says:

> Could this sum have been applied to the segregation of its feeble-minded women, it would have sufficed to rid the county of the whole of its younger generation of undesirables. We must bear in mind, however, that at present the state has no institution for the care of such women . . . . The training schools for the feeble-minded are overcrowded and have long waiting lists . . . . Our short-sighted policy . . . . has not even the merit of being inexpensive. It costs a great deal of money and then serves only to aggravate the evils which it is designed to cure. . . . . The county has done the best it could with the means at hand. Surely it is high time that the state inaugurate a more intelligent and far-reaching policy which shall forever rid these sections of their unequal and undeserved burden.

(3) There is a very distinct tendency for mental defect to run in certain families, indicating the strong hereditary influence, which can only be checked by steps to prevent marriage and continued propagation of the kind. Dr. Key's report contains several graphic charts, illustrating the hereditary taint upon certain family stocks, through several generations.

For instance, Chart B shows the family history of one family, originating in a marriage of cousins, out of defective strains. This couple came to the village S—— in this district a dozen years ago, and have been a problem to the community ever since.

The youngest of their 12 children had cleft-palate and did not live. The next older was a cripple who never walked and died at three. All the four grown daughters are very defective mentally; three are deaf and imbecilic, and three have had children born out of wedlock. Two of them are now married to men as lacking as they are, and have growing families of children. Of the

sons, only one is steady and works hard to keep the family from absolute want. The father died last year, and the mother has been bedridden with rheumatism for several years. She lives with five younger children and her illegitimate granddaughter in part of a rickety store building; sits smiling all day long on an old rope bedstead, the only care she has being what her deaf imbecile daughter can give her. One daughter has been sent to a state hospital and there is no question but that the rest of the family should be cared for in an institution.

Similar charts describe networks of other families, showing with equal positiveness the tendency of defectives to multiply their kind.

(4) Comparisons between groups of 45 defective women, and 45 normal women in the same area, showed that the average birth-rate for defectives was seven children to each mother, while that of the normal women was 2.9 children for each mother. This excess of defective births was not offset by higher mortality rate among defectives, the actual survivals of children of defective mothers being twice as great as in normal families.

While it is recognized that this narrow inquiry, covering so few cases, is not to be accepted as conclusive, it seems clear that in this particular area, the tendency to multiplication is considerably greater among defectives than among normals, thus intensifying and emphasizing the problem of caring for and preventing the unlimited propagation of mentally tainted children.

(5) Centers of defectiveness have flourished where remedial agencies have been most active for relief of external conditions. The lightening of the struggle for existence which this relief brings only makes it easier for the defective to live on, procreate and multiply his kind. The root of the evil lies not primarily in external conditions, but in the failure to separate and restrain inherently defective individuals from propagation.

For purposes of classification and study, Dr. Key divided the defectives found into groups, according to their predominant traits of conduct or offense.

The largest class contained 152 adults, who are termed "partially dependent"—that is, those who required public and private charitable relief, but who exhibited no positive vices, and whose defect ranged from imbecility to the higher grades of mental incapacity.

Thirty adults were found whose defect was closely associated with and manifested in alcoholism.

Eighty-nine were found who were sexually immoral.

Twenty-two were criminalistic.

Twenty are classed as alcoholic and sexually immoral.

Fifteen are called alcoholic and criminalistic.

Ten are classed as sexually immoral and criminalistic.

Three are grouped as alcoholic, sexually immoral and criminalistic.

This division displays clearly one of the striking perils of the situation.

An interesting sidelight on the situation is contained in Dr. Key's study of the rural school, in relation to the defective. This disclosed 160 pupils whose inability to advance could be laid primarily to hereditary defect. The detailed histories of 50 such children are given in the report. An instance is cited, where, of 40 children in a certain school, 10 were defective, or retarded in their development from two to four years. The effect of these children upon the normal children, and the waste effort expended by and for the defectives themselves, is one of the sound arguments for wider state supervision and care of defectives.

In conclusion, Dr. Key remarks:

> No sensible person to-day questions the state's authority to cleanse a polluted water supply or take any measures deemed necessary to stop the spread of disease. . . . . Why should it not exercise the same jurisdiction with regard to these plague spots, the sources of moral contagion?

She strongly urges the need of locating the worst centers of degeneracy and defect; registration of notoriously bad strains; marriage laws to restrain marriage into these strains; establishment of adequate institutions immediately, for the custodial care of those whose continued multiplication cannot be prevented by these means.

THE SEVENTY-FIRST ANNUAL MEETING OF THE ASSOCIATION.—The meeting of the American Medico-Psychological Association which was held at Old Point Comfort, Va., in May was well attended, over 130 members having registered and more than 60 guests and visitors being present.

The papers which were presented were many of them of a high order, and several provoked a spirited discussion. It is to be regretted, however, that, notwithstanding the abstracts of papers which are printed in advance, a large number of members do not take part in the discussions, and that so often the discussions, instead of taking up the real points in the paper or bringing out others which have been omitted by the author, degenerate into complimentary remarks or platitudinous discourses more or less remotely related to the questions at issue. Perhaps this defect—for we consider it a real one—might in a measure be overcome by the selection of two or three members for each paper who would agree to lead in the discussion thereof. In this selection the authors of the various papers to be presented might be consulted and might render valuable aid in the choice.

The address of the President was a timely one, and held the attention and interest of the audience, and his conduct of the meeting met with the warmest approbation.

The annual address, by Douglas Southall Freeman, Ph. D., editor of *The News Leader* of Richmond, Va., upon "Publicity and the Public Mind," was in manner and matter one of the most interesting addresses delivered before the Association in a long time. We are happy to be able to present it to our readers in this number of the JOURNAL.

The sessions of the meeting were somewhat shortened by the absence of several gentlemen who had been accorded places on the program, but who did not appear and whose papers were therefore only presented by title. In two or three instances, the absence was unavoidable, but the absentees had shown their appreciation of the amenities of the occasion by sending their regrets together with the manuscript of their papers; but in other cases, neither paper nor explanation was forthcoming. This matter was referred to the Council for future action, and the establishment of some rule which would govern the situation in the future.

The next meeting will be held in New Orleans, La., at a time to be fixed by the Council.

Dr. Hurd, chairman of the Committee on the History of Institutional Care of the Insane in the United States and Canada, made a report of progress which was subsequently considered by the Council, which authorized the committee to proceed with the

printing of the history. Every member of the Association should individually subscribe for the history, and every hospital should also arrange to have a copy in its library. Prompt replies should be sent to the circular letters which will soon be sent out inviting subscriptions.

INSTITUTION LIBRARIES LEAGUE.—Upon the application of certain librarians interested especially in work in institutions, the American Library Association, at a recent meeting, voted to appoint an Executive Committee to further the formation and growth of libraries in hospitals (state, general and special), schools for the feeble-minded, prisons and reform-schools. This committee, as organized, bears the name of The Committee on Library Work in Hospitals and Charitable and Correctional Institutions, and is composed of seven members: Miriam E. Carey, *Chairman, Supervisor of Institution Libraries, Minnesota State Board of Control;* Julia A. Robinson, *Secretary of the Iowa Library Commission;* E. Kathleen Jones, *Librarian at McLean Hospital, Waverley, Mass.;* Florence R. Curtis, *University of Illinois Library School;* Florence Waugh, *Supervisor of Institution Libraries, Nebraska Library Commission;* Mary E. Eastwood, *New York State Library;* Carrie E. Scott, *Indiana Public Library Commission.*

The plan of the committee is to organize the various hospitals and other institutions in the United States and Canada into an INSTITUTION LIBRARIES LEAGUE, for the purpose of mutual help and exchange of ideas. The committee hopes that every hospital, general or special, which has a library or wishes to have one, will join the League. Communications in regard to it should be addressed to Miss Miriam E. Carey, State Board of Control, St. Paul, Minnesota. To be a member, it is not necessary to be a trained librarian; in fact, it is to help the *un*trained librarian that the League is formed—that through it, the services of those who have had experience in this work may be at the disposal of the others. Anyone, physician, stenographer, nurse, patient—whoever has charge of the library— is eligible to represent the hospital.

In addition to the formation of the League, the committee plans to publish as soon as possible the following monographs:

Survey of Institution Libraries.

Manual on Arrangement and Care of Books in Institution Libraries.

Syllabus of a Course of Lectures on Books and Reading, Suitable for a Training-school for Nurses.

Bibliography of Occupational Work and Handicrafts in Hospitals and Prisons.

"Campaign Material"—Statement of Reasons for Developing and Maintaining Institution Libraries.

That the bibliography of handicrafts may be as complete as possible, every hospital making a feature of this work, or specializing in any branch of it—embroidery, lace-making, weaving, basketry, pottery, woodwork, etc.—is urged to send to Miss Jones, McLean Hospital Library, Waverley, Mass., a list of books, pamphlets and articles in periodicals which have been found valuable in this department.

The committee would also call the attention of hospitals to the fact that there still remain a few copies of "A Thousand Books for the Hospital Library," which may be had for twenty-five cents each upon application to the A. L. A. Publishing Board, 78 E. Washington Street, Chicago.

Through the courtesy of the editors of the American Journal of Insanity, notices of the League and the work of the committee will be published from time to time in this periodical.

THE COMMITTEE ON LIBRARY WORK IN HOSPITALS AND CHARITABLE AND CORRECTIONAL INSTITUTIONS.

MIRIAM E. CAREY, *Chairman,*
E. KATHLEEN JONES,
} Sub-Com. on Hospitals.

Book Reviews.

Feeble-Mindedness: Its Causes and Consequences. By HENRY HERBERT GODDARD, Ph. D., Director of the Research Laboratory of the Training School at Vineland, N. J., for Feeble-Minded Girls and Boys. (*New York: The Macmillan Company, 1914.*)

"This book," we are told in the preface, "is in the nature of a report on work done at the Vineland Research Laboratory during the past five years in an attempt to discover the causes of the feeble-mindedness of the children of the institution."

The investigation has been evidently most carefully conducted, and with a conscientious determination not to permit preconceived ideas in any manner to influence conclusions.

Reference is early made to the difficulties which are experienced in exactly determining what constitutes such a degree of mental defect as shall mark the individual as feeble-minded.

"If we leave out those whom society has already recognized as idiots or imbeciles, we have a higher group, the specifically feeble-minded or moron which has been described by the Royal College of Physicians in the following terms: 'One who is capable of earning his living under favorable circumstances, but is incapable from mental defect existing from birth or from an early age (a) of competing on equal terms with his normal fellows, or, (b) of managing himself and his affairs with ordinary prudence.' This definition, it is seen, would include a great many whom we have not thought of as feeble-minded." "So strong," continues the author, "is their resemblance to the normal person that although they are well understood by those who have studied them and have dealt with them in institutions, yet there are many people even to-day who refuse to admit that they cannot be trained to function like normal people."

In these cases the emphasis should be put upon the word *incapable*, a word which has been too much ignored in a consideration of the social and other relations of the persons who come into this great group.

At once, when we recognize that they *cannot*, rather than *will not*, compete successfully with others under the same conditions, that they cannot manage their affairs with prudence and judgment, that they cannot avoid intemperance and are incapable of resisting temptation to social vices, we realize that a different situation confronts us and we cease attempting to reform drunkards and those who lead lives of sexual immorality—and look about for means to protect those who are incapable of protecting themselves—and in protecting them at the same time protect society. We have, heretofore, too many of us, and we continue still to do the same, preached to a large

number of people temperance, chastity, obedience to law, frugality and industry, believing they *could* practice all of these if they *would* when as a matter of fact they were not only incapable, but were most prone to follow the lines of least resistance.

One sees at once how great a modification must be made by many people, by courts and law makers, of our conceptions of responsibility before the law, as relates to a large number of individuals. "The hereditary criminal," Dr. Goddard says, "passes out with the advent of feeble-mindedness into the problem." "It is hereditary feeble-mindedness, not hereditary criminality, which accounts for the conditions."

The reviewer is greatly tempted to quote to a large extent from what Dr. Goddard quite convincingly says upon criminality, alcoholism, prostitution, pauperism, but neither space nor time permits. These subjects, the question of the place which the feeble-minded fill in the social life of to-day, and the biological problems; the causes of mental defectiveness, its physical basis and methods of prevention are the subject of the book. The author tells us in his preface that some of the conclusions, based upon the studies of which this book is the product, "are as surprising to the writer and as difficult for him to accept as they are likely to be to many readers." The relation of alcohol to feeble-mindedness is to "the writer," for example, "a complete surprise." It has long been taught that alcoholism, drunkenness, in one or both parents, was a somewhat fruitful cause of mental defect in the offspring, but the author says that his data do not prove that drunken parents any more certainly have feeble-minded children than do parents who do not drink.

These studies embrace 327 family histories. Twenty-seven have been thrown out as containing insufficient data. One hundred and sixty-four or 54 per cent of the remaining histories leave no doubt of the hereditary character of the defect. Thirty-four or 11.3 per cent are grouped as probably hereditary. In 12 per cent a neuro-pathic ancestry was found, such as paralsis, apoplexy, brain disease, epilepsy and insanity. In 19 per cent accidental causes were found and in 2.6 per cent no cause was found though for the most part occurring in intelligent families who gave every possible help to discover a cause.

In conclusion the author summarizes as follows:

First: The mere recognition that there is a problem of the feeble-minded will go a long way toward its solution.

Second: A large part of the mental defectives who cannot be segregated may be reasonably and safely cared for in their homes, when we learn to recognize them for what they are, children in intelligence, though men and women in body.

Third: We must increase our efforts to segregate as many as possible, because for a long time to come there will be a larger number who need colonization, than we can possibly care for.

Fourth: We must have sterilization wisely and carefully practiced for the solution of many individual problems that are not reached by any other method.

The conclusion reached by the author is that feeble-mindedness should attract greater attention from those interested in social welfare; that it underlies all our social problems and is therefore worthy the attention of statesmen and social leaders; that it is mostly hereditary and in all probability transmitted in accordance with the Mendelian law of heredity and that "the way is open for eugenic procedure which shall mean much for the future welfare of the race."

The book is a thoughtful and careful contribution to an important subject and will well repay study.

The Story of Bethlehem Hospital from its Foundation in 1247. By EDWARD GEOFFREY O'DONOGHUE, Chaplain in the Hospital. With 140 Illustrations. (*New York*: *E. P. Dutton & Co., 1915.*)

The history of no institution for the care and treatment of mental disorders dates as far back as does that of the Bethlehem Royal Hospital of London, and none is of greater interest.

It is a far cry back to that 23d of October, 1247, when Simon FitzMary gave a deed of that land which he had "in the parish of St. Botolph without Bishopesgate" to God and the Church of St. Mary of Bethlehem for the foundation of a priory there. The gift was bestowed, as is related in the deed, for the benefit of the city of London in manifold ways as well as for the salvation of the soul of the donor, his ancestors and descendants and his friends, and especially of the souls of three friends whom he names, together with the souls of their wives.

It is clear from the deed that FitzMary did not dream of establishing anything more than a religious house of the order of the Star of Bethlehem, that a hospital, and particularly a hospital for the insane, was not contemplated in his benevolent foundation.

Whatever may have been the intentions of the founder, it appears certain that his priory from mismanagement sometimes, ofttimes through downright dishonesty, did not flourish, and that for a century, as far as the meagre records remaining show, it was often in want, sometimes in dire distress.

Upon the claim that it was an alien priory Edward the III seized Bethlehem, some time before 1375, and there appears to have been a protracted controversy between Edward III and the City of London over the "patronage," or what the modern politician would call the "spoils," pertaining to the conduct of the priory. This controversy between the Crown and the city was not indeed settled until 1547 when Henry VIII granted to the "Mayor, Commonalty and citizens" of London a deed or covenant making them "masters and governors of the house or hospital called Bethlem." This was signed but seventeen days before the death of the King. It will be seen that the statement often made that the hospital was seized by Henry VIII is an erroneous one; the seizure had already been made by Edward III about two centuries before, and in 1346 an agreement had been made between the brethren and the city touching the election,

duties and jurisdiction in the affairs of Bethlehem of "the mayor, two aldermen or any two other citizens, to be annually elected."

It is not known when the insane were first cared for at Bethlehem. The priory had in some manner come into the possession of ground which is now occupied by Trafalgar Square, and in that location, and presumably under the general supervision of Bethlehem, which possessed a house at Charing Cross called the Stone House, there were harbored "mad and distracted people, before such time as they were removed to the present hospital of Bethlehem without Bishopsgate." Stow, in his "Survey of London," in the second edition, published in 1603, describing the locality and surroundings of Charing Cross, says: "And so on to a lane that turneth to the parish house of St. Martin in the Fields. Then [*i. e.*, at the corner of the lane and the highroad] have ye an house wherein sometimes were distraught and lunatike people, of what antiquity founded, or by whom, I have not read, neither of the suppression, but it was said that some time a King of England, not liking such a kind of people to remain so near his palace, caused them to be removed further off to Bethlem without Bishopsgate, and to that hospital the said house by Charing Cross doth yet remain."

An investigation made in 1632 resulted in the following statement quoted by the author and upon which he rests his case that the insane were cared for at Bethlehem Hospital prior to 1403: "When the hospital was first employed to the use of distracted persons appeareth not. The first mention we find [in a search of the muniment room at Bridewell, 1632] of it to be employed so, was in the beginning of the regin of Richard II." In other words, in 1377 about, there were insane persons confined in Bethlehem Hospital. From that date then, to go back no farther, the hospital has been a refuge for the insane. Thus much of its "antiquity," as old Stow would put it, in the service of the mentally unbalanced is fairly well established.

From the first the affairs of Bethlehem appear to have been conducted in a somewhat haphazard manner. For a century, as we have seen, the hospital was in distress and poverty much of the time. After having been taken over by the Crown corruption, malfeasance, theft, too often characterized the conduct of those who were entrusted with its control. Like some experiences in this country, when political management and political favorites came in contact with the hospital, it and its inmates suffered. Much as we may deplore the unhappy condition of the inmates of the first Bethlehem, which was in every sense a Bedlam, the care of the patients and the general conduct of the hospital was in accordance with the general intelligence of the times. No one could have been expected to protest against the misery, squalor, filth and degradation which was the lot of the inmates of the hospital, when we recall how it was a show place for every idle visitor, and how the patients were jeered at and excited as bears were wont to be baited in a bear-pit to amuse the crowd.

In 1676 the new or second Bethlehem was opened in Moorfields, the site of the hospital being where Finsbury Circus now is. It had been carefully

planned, but was unfortunately located over an old ditch which, in time, caused defects to appear in its walls. The architect is said to have planned the exterior after the Tuileries, which appears to have greatly incensed Louis XIV. In the new hospital the sexes were separated, which had not been always the case in the old one. The galleries or corridors were wide and out of these opened the cells or bedrooms of the patients. These rooms were provided with narrow, unglazed windows, high up in the wall.

The galleries were reserved, as a rule, for visitors, "who amused themselves by looking through the hatches of the cell doors and bandying unsavory jokes with the inmates of the cells." It does not appear therefore that new, and what were then called palatial, surroundings had brought with them new methods. "Visitors went to Bethlehem at Easter, Whitsun, or Christmas, very much as the uncouth rustic goes to the menagerie of a travelling circus, to poke the animals with an ash plant."

The story is a long one and it is most interesting—full of painful things as it is—but the reader must get the book and spend days in its perusal.

The second hospital was followed by the third or present Bethlehem hospital. A new building was found necessary by reason of the unsafe condition of the walls of the building in Moorfields, due to unstable foundations, and a change of location was desirable because houses and shops had begun to crowd around the hospital, depriving it of light and air.

The lands at Moorfields had been leased to the hospital by the Corporation of London for 999 years from 1674. An exchange was made for land in St. George's Fields, the unexpired term of the old lease being transferred to the new lease. Eleven acres and a little more in St. George's Fields were taken in exchange for two and one-half in Moorfields, and there the present hospital was built.

The foundation stone was laid on April 18, 1812, and the patients were transferred, one hundred and twenty-two in number, on the night of August 24, 1815, to their new quarters. In a few days a century will have passed since that change. In those fruitful years how many and how great have been the changes which have been wrought in the science and art of medicine and surgery, and particularly in psychiatric medicine. The story of Bethlehem and its progress for the century has been also the story of the progress of psychiatry. Not indeed until the medical point of view gained the ascendancy was there any real progress in the methods of Bethlehem. Not until 1852, under Dr. Hood, were methods introduced which were at all comparable with those now in vogue. From that time on the progress of the hospital has been steady. It has not been the great school of psychiatry that it might have been, but it has accomplished during the last half of the century a great work for the citizens of London.

We said when we started this notice that it was a far cry back to Simon FitzMary and the year 1247. What would be his feelings could he walk the wards of Bethlehem to-day and were he able to read the "Story" that Chaplain O'Donoghue has so well and so interestingly and convincingly

told. Would he regret that the religious house which he had thought to found where prayers should be said for the repose of his soul, had been diverted from the original purpose to its present uses? Would he realize that religion sometimes finds its best expression in service? We wonder.

The book does not profess to be a history; much that makes history possible is lacking, but the "Story" is nevertheless good history and the author's conjectures and conclusions may be accepted as being as near the truth as may be hoped. The reviewer has spent many pleasant days in Bethlem and since his first visit to its wards, now a third of a century ago, has again and again renewed his acquaintance with its precincts, and the "Story," of which he has given but an imperfect review, has been to him like taking another stroll through its corridors or about its grounds. He hopes, nay believes, it will give almost as much satisfaction to all who read it.